

Published Bi-Monthly

Vol. 3 #2 Nov./Dec. 1989

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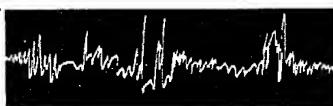
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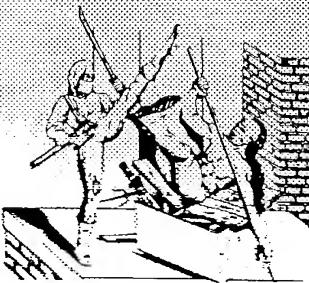
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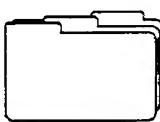


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## **CoCo Clipboard Magazine**

Vol. 3 Issue 2 Nov./Deec. 1989

ISSN 0899-6415

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Printed by: Falconer Printing & Roach Photography

CoCo Clipboard Magazine™ is published bi-monthly (6 times a year) by:

CoCo Clipboard Magazine  
3742 U.S. 20, Box 3  
Fredonia, N.Y. 14063  
(716) 679-0126

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### As we got to press . . .

There is exciting news about our computer these days and we will be covering it over the next several issues. As stated on our front cover and in my regular column, a new "CoCo 4" is about to emerge from a non-Tandy source. In fact it may be TWO sources! We'll know more later.

An article originally scheduled for this edition has been held till the next. OS9 Users Group President Kevin Darling will give us the inside scoop on how he and Tony DeStefano produced the "One Meg." CoCo this past year. Also coming up will be a new Assembly language series by Carl England as well as other MAJOR pieces.

# From The Desk Of . . .

Ted and Darlene Paul

Some front cover huh????? Yeah, we've gone out on a v-e-r-y long limb on this one, but not as long as you might expect.

The idea for a *CoCo4* isn't all that new. I would suspect that probably someone was thinking about a *CoCo4* just after Tandy announced the *CoCo 3*. The *CoCo 3* and the improvements to BASIC and OS9 were the answer to a lot of wants, needs, and desires (maybe even prayer) of many users. However, as was soon evident, there were some concessions to "backward" compatibility to the earlier versions of the *CoCo*. For thousands of users this was a real blessing as they didn't have to junk hundred of dollars of software and hardware. Enough patches, hacks, fixes and just about anything could be made to run on a *CoCo 3*.

But these same concessions also hobbled the *CoCo 3* and prevented it from being an even bigger success. Point in case was maintaining the cassette port. Unused by OS9 LevelII, and frankly rarely used by anyone else it could have been dropped, but wasn't. A "real" RS-232 port and a parallel printer port would have been nice. Dropping the 32 column start up screen in favor of a 40 column one would have been a plus as well. Forty columns runs just fine on most standard TV sets as evidenced by the millions of Commodore 64's which have a native 40 column screen. A real sound chip, a GIME Chip with all the address lines working and other things would have been great, but were not implemented to maintain backward compatibility,

Make no mistake, the *CoCo 3* is an incredible machine. Under RSDOS there are hundreds of programs to accomplish just about anything you need to do. Under OS9 Level II you can do a lot of those all at once, albeit understanding this advanced operating system can be and often is difficult and frustrating. This magazine is edited, the mailing list is managed, letters written and information exchanged via phone lines on a *CoCo 3*. There is not an MS-DOS machine within a stones throw of my office. It works seven days a week and other than a good cleaning once in a while has worked without a major breakdown for 3 years.

## The Rationale

So if the *CoCo 3* is so great just what is the need for a *CoCo4*? Well can you imagine the folks at Apple Computer, IBM, or Tandy still selling the same machine for the last three years, without an upgrade in hardware, software or both? Tandy has had more versions of the Tandy 1000 in the last three years than you can shake a stick at. There was the 1000, 1000A, SX, EX, (1200's and 1200HD's and 2000's) HX, TX, SL, SL/2, TL, TL/2, etc., etc. Each had some improvement or change or advancement. The *CoCo4* just might be the timely upgrade of an already solid performer. And by the way, we're not just making up this *CoCo4* story to shock you as you sit down to your holiday dinner!

During October Kenneth-Leigh Enterprises distributed a survey at the Somerset RainbowFest asking peoples opinions about a *CoCo4*. Other than some final production decisions pre-production will begin after the first of the year. The "*CoCo4*" or what ever it will be called, will be an OS9 computer only. There will be no Basic in the computer as there is in the *CoCo 3*. Burke & Burkes' RSB will run, but only with programs running BASIC - no M/L Code. And just what about OS9 and recent rumors and developments.

First of all there is a new version of OS9 called OS9000. It is designed to run on advanced versions of MS-DOS machines using the -286 and -386 chips. It would appear that there is finally a realization that OS/2 just ain't what it was cracked up to be and a real multitasking OS was needed. In stepped OS9 now adapted for "PC's."

Secondly there has been rumors of an updated version of OS9 Level II. Officially nothing is available. However if you ask the right kind of questions of the OS9 User group President Kevin Darling you just might get some very interesting information. Kevin is also involved with the *CoCo4* project. This brings us to our next point..

## The Front Cover

From The Desk continued on :

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From The Desk continued from 4

Also listed on our front page is a very interesting BBS number. My thanks to Carl England for passing on this wonderful phone number to us. The Hayes Modem Company has established a BBS that has a pretty active CoCo SIG. While the call to this BBS is a toll number, many phone wise CoCo users have opted to sign on with an alternate long distance carrier. The BBS is active 24 hours a day, seven days a week so calling after 5pm or 11pm and using alternate long distance carriers can save you plenty of dough. The only real restriction is a thirty minute time limit per day. You'll learn to navigate quickly through the system as it uses a hot key routine - meaning you rarely ever hit the enter key. Oh sure, it ain't Delphi or CompuServe or GENie, but you'll find Art Flexer, myself, Kevin Darling and up to date OS9 information, and a lot of other CoCo users on the BBS. Give it a call and let the SYSOP know where you saw the information. There is a growing DL library as well.

**In This Issue**

Back in this issue are Mike Dooley, Randy Krippner and their columns. Also starting in this issue is our column on OS-9 in French by Claude Giguere. We've had a tremendous response to this concept and to our readers in French speaking Canada, Europe, Asia and elsewhere - enjoy!

A few months ago I asked Bob Gault up in Grosse Point Woods, Michigan to tackle a business project for us that would tie in with our emphasis on business uses of the CoCo. What I thought would be a real brain buster turned out to be something Bob had already written. He spiced it up, made it easier to use, and if you use the U.S. Postal Service and / or U.P.S. you'll

find it a real time and MONEY saver. Simply put, you can now enter the weight and Zip Code of something you need to ship and the program will tell you if it's cheaper via the mail or on UPS. If you ship anything on a regular basis you know that dealing with scales, charts, rate cards etc. can take up valuable time and lead to confusion. Bob's program can help a great deal.

Our apologies for the delay in getting your magazine to you. We have fallen woefully behind schedule but are trying to gain it back. But we're still here, working hard - and man wait till you see the program/project we've got coming this spring! You'll be seeing stars after this one!

We are also looking for a couple of programs and articles for future magazines. The first is a Video Titler program that will do fade to black, and fade from black graphics. I'm not particular under what OS it runs under, but letter sizes and scrolling should be included. Secondly I'm looking for someone who has experimented with high-res video / CoCo interfacing. I recently saw a program running on a MAC that permitted an actual real time t.v. picture to be displayed on screen while doing something else. Can you imagine watching your favorite game and working your BBS at the same time! Can it be done on a CoCo? Also we're looking for someone to come up with a GENLOCK hardware / software interface for the CoCo. I've been told it isn't possible either. I'm not sure why video and the CoCo has become so interesting, maybe it's that new CamCorder....

Finally, our best wishes to you and your family during this holiday season.

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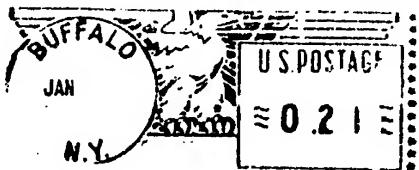
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# Reader Mail



## Programming Question

Dear Ted:

I am a subscriber to your magazine and I think you and your staff are doing a great job.

I have a question that I hope you or someone you know can answer. How do you get a 40 column text screen or a PMODE 4 screen to scroll completely off, leaving a blank screen - in Basic. I have a CoCo 3.

Sincerely,

Roger Carlson  
Tinley Park, IL

Dear Roger:

Thanks for the nice compliments. All of our writers take pride in their work. I'm going to forward your question to Bob Gault and his "Glad You Asked" column. Bob has a lot of experience in graphics programming.

## Shelby Slipping?

Dear Ted:

I would like to point out a discrepancy in Shelby LaMont's otherwise excellent article (*Clipboard Mar./April 1989*). It concerns OS-9's module header and is a bit of a problem - especially for beginners, to whom it is important to supply exact information. I know that I was confused by this same issue when I started with OS-9 and it is the sort of thing that often leads to a loss of confidence and the subsequent rejection of the new knowledge a beginner is trying to gain access to.

I feel that the root of the problems is in Microware's use of the term "Attributes/Revision" when describing byte seven of a module header in their documentation. That byte only indicates that a module contains re-entrant, and thus sharable, code by setting the first bit. It has nothing whatever to do with the following files "attributes", or - more properly - "permissions". All of this will become

clear if Microware's documentation is studied. See pages 19 and 21 of the Level I Technical Manual (the blue book) or 3-3 to 3-5 of the Level II Technical Reference for the information on the module header.

The files actual permissions ("attributes") are given in the first byte of its' File Descriptor Sector when it is on a disk. This is described on pages 35 and 36 of the Level I Technical Manual and pages 5-4 of the Level II Technical Reference. It will be seen that a full byte is required to supply enough bits for each permission that a file might have, so it would not be possible to fit them all in the header's half byte, which really serves another purpose all together. If you have followed me through all of this, you will see that it is really quite simple and makes a great deal of sense.

Yours truly,

Donald Hicks  
Mobile, AL

Dear Don:

I'll pass on this information to Shelby if I can find him. His last known location was somewhere in Panama! For the rest of our OS-9 readers our thanks to you for bringing this to our attention and for all the support you've given to CoCo Clipboard!



# CoCo 'N Amateur Radio

Mike Dooley KE4PC

Editors Note: This article refers to a project to build your own RS-232 Pak for use in telecommunications. We recommend that for your own peace of mind that you PURCHASE a fully tested and designed RS232 PAK from our advertisers - Kenton Electronics, CRC/Disto or Orion Technologies. However because some people like to know how electronics work and are interested in learning how to build electronic equipment we are presenting this hardware article.

Hello, and welcome back! This time we're going to build an RS232 Serial card suitable for use with the many communications programs out there. This card will plug directly into your cartridge slot or one of the slots in the Multipak. It will do everything the old Radio Shack RS232 Cartridge would do with one exception... There's no internal ROM. This means you must use some type of communications program since there won't be one built into the cartridge.

## WARNING!!!

This project requires some soldering and wiring of small components! These components are then going to be plugged into your computer which could result in the damage or destruction of said computer. Neither the author nor Coco Clipboard Magazine shall be held responsible for any of this damage! If you've never attempted a project of this sort find a friend who has and get them to help.

Let's start with Figure one. This shows the connections on the edge connector which plugs into the cartridge slot. The view is as though you were looking into a cartridge.

The odd numbered pins are on the top and the even numbered ones are on the bottom. When the cartridge is plugged into the slot in the side of your computer, Pin 1 is on top and at the rear.

Figure 1

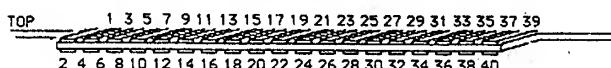


Figure two shows the names of the signals found on each pin. A detailed description of all of these signals would be worthy of an entire article, but that's not

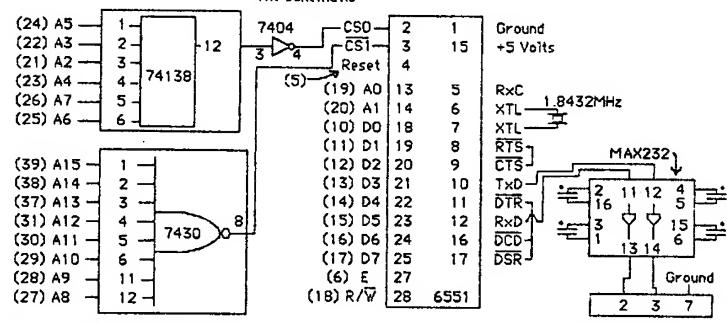
what we're here for. The pins used for this project are all of the address pins (A0 through A15), all of the data pins (D0 through D7), Read/Write (R/W), Clock (E), Reset (Reset), the Five volts pin and Ground.

Figure 2  
What are the pins...

1 - Ground	11 - D1	21 - A2	31 - A12
2 - Ground	12 - D2	22 - A3	32 - CART Select
3 - Hold	13 - D3	23 - A4	33 - Ground
4 - NMI	14 - D4	24 - A5	34 - Ground
5 - Reset	15 - D5	25 - A6	35 - Sound Input
6 - E	16 - D6	26 - A7	36 - SCS
7 - Q	17 - D7	27 - A8	37 - A13
8 - CART	18 - R/W	28 - A9	38 - A14
9 - +5 Volts	19 - A0	29 - A10	39 - A15
10 - D0	20 - A1	30 - A11	40 - SLENB

Figure three shows a schematic of the circuitry used for the RS232 serial port. The 7430 and 74138 are used for address decoding. The addresses used for the RS232 port are FF68 through FF6B. The 7430 gives the FF part. Whenever address lines A8 through A15 go high (address FF) the output of the 7430 goes low.

Figure 3  
The schematic



Connections to +5 volts and Ground:

MAX232: +5 = pin 16

Ground = pin 15

6551: +5 = pin 15

Ground = pin 1

7430 and 7404: +5 = pin 14

Ground = pin 7

74138: +5 = pin 16

Ground = pin 8

IMPORTANT!  
Connect a .1 microfarad  
capacitor between +5  
and Ground on each chip.

The 74138 is used to decode a range of addresses into 8 outputs. Figure four lists the outputs (Y0 through Y7) and what address they reactivate. Since the addresses needed are FF68 through FF6B for our serial port, we'll use the Y3 output.

CoCo 'N Amateur Radio continued on 9

CoCo 'N Amateur Radio continued from 8

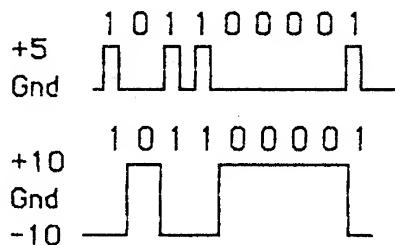
Figure 4	
74138 decoded address outputs	
Y0	40-43
Y1	60-63
Y2	48-4B
Y3	68-6B
Y4	44-47
Y5	64-67
Y6	4C-4F
Y7	6C-6F

The decoded addresses are sent to the 6551 chip. They connect to pins 2 and 3. Since pin 3 is looking for a low signal (the bar over CS1 means active low), the output of the 7430 can be connected directly to it. Pin 2 requires a high (CS0 has no bar above it). To get a high from the 74138 we need to invert it. Whenever addresses 68 through 6B are active Y3 goes low so we'll send the low through a 7404 inverter and make it a high.

Now that we've selected the 6551 with pins 2 and 3 (CS means Chip Select) we can use this chip to communicate with the outside world. The 6551 is what's known as an Asynchronous Communications Interface Adapter. That means it can provide us with an interface between a microprocessor (the 6809 in the Coco) and serial communications devices (like MODEMs).

Last, is the MAX232 chip. This is what makes this project the nicest. Most RS232 serial port projects require the builder to come up with +12 volts and -12 volts for use in the RS232 driver and receiver chips. You see, MODEMs, printers and other serial devices communicate using a format where a one is represented by a minus voltage and a zero is represented by a plus voltage. Figure five illustrates this.

Figure 5



The top line shows some ones and zeros as the computer understands them. A one is +5 volts and a zero is 0 volts (or ground). The second line shows the same data after passing through the converters. Notice that the one bits are now a negative voltage and the zeros are a positive voltage.

Let's go back to the MAX232 chip. This

chip, with the addition of four electrolytic capacitors, can take the +5 volts and ground signalling and perform the conversion without an external +12 or -12 volt supply. The chip produces the necessary positive and negative voltages internally (+10 volts and -10 volts in this case).

In this implementation, I'm only using two of the four converter circuits inside the MAX232 chip since I only need Transmit data (Tx) and Receive data (Rx). In a later article we'll look at adding other leads to the MAX232 chip and, perhaps, even a second MAX232 chip so we can use all of the handshaking leads on the 6551.

Here are several hints for building this project. First, don't forget to connect the proper pins to +5 volts and ground on each chip. Second, make sure you observe the correct polarity on the Electrolytic capacitors used on the MAX232 chip. Connecting one backwards can be an exciting proposition.

Below you'll find a parts list. I didn't list any prices because, as you

CoCo 'N Amateur Radio continued on 10

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# CoCo Clipboard Magazine

know, prices can change without notice. You should be able to purchase everything you'll need for under \$25.00, including shipping, but only if two or more people perform a group purchase. The Cartridge breadboard is only available from CRC/Disto. The other components are available from a variety of sources. Most (except the crystal, the 6551 and the MAX232 chip can be purchased at Radio Shack.

The only source I know of for the MAX232 is Jameco Electronics. The chip is about \$5.00. Including the prices of all the other parts needed your total will probably reach about \$10.00 from Jameco which brings up a problem. Jameco has a \$20 minimum order (remember the group purchase?). If you can't find a buddy to buy stuff from Jameco with, buy some other stuff from them to fill out that \$20.00 minimum. A good suggestion is another 6551 and a couple more MAX232 chips. A 6821 would be good, too, since a parallel port project is currently in the works. Heck, we could have TWO serial ports AND a parallel port on this board!

73's and thanks! DE KE4PC Mike Dooley

## PARTS LIST

1 - Cartridge Breadboard

CRC/Disto  
10802 Lajeunesse  
Montreal, Quebec, Canada H3L 2E8  
Phone 1-514-967-0195

1 - 6551 ACIA  
1 - 7430 8 input NAND gate  
1 - 74138 3-to-8 line decoder  
1 - 7404 hex inverter  
2 - 14 pin sockets  
2 - 16 pin sockets  
1 - 28 pin socket  
1 - DB25S connector  
1 - 1.8432 MHz crystal  
6 - .1 microfarad disc capacitors  
4 - 10 microfarad 25 volt electrolytic capacitors

Jameco Electronics  
1355 Shoreway Rd.  
Belmont, CA. 94002  
1-415-592-8097

(Data sheets are 50 cents extra and there

is a \$20.00 minimum order.)

6 - .1 microfarad disc capacitors  
4 - 10 microfarad 25 volt electrolytic capacitors

Jameco Electronics  
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(Data sheets the machine state BEFORE an interrupt occurs. Normally the CPU, upon an IRQ or NMI, would save the machine state after the interrupt, which takes considerable time. CWAII insures fast response to the interrupt in time-critical applications since there's almost no delay after the interrupt to the time when it is serviced.

SYNC (Synchronize to external event) simply places the CPU in a 'synchronizing state, meaning that no further instructions are processed and the CPU waits for an interrupt. Unlike CWAII, the interrupt will cause the machine state to be saved, thus taking more time to process. One place this instruction is used is in the PALETTE command. Just before changing the palette color, SYNC forces the CPU to wait for the horizontal scan NMI interrupt to occur (i.e. when the horizontal scan line of the monitor begins travelling right to left an NMI occurs). When this happens, the NMI is serviced and control is returned to the instruction after the SYNC which then makes the palette change. This prevents 'sparking' when writing to the video registers since no changes in the video output can take place for about 20 microseconds after the interrupt. (See the code at \$E62A-\$E633 in the Super Extended Basic ROM).

ORCC and ANDCC can be used to enable or disable the IRQ and FIRQ interrupts, as well as to clear/set the E bit. The E, F, and I bits of CC are bits 7, 6, and 4 respectively. As mentioned above, IRQ and FIRQ are only enables when their corresponding bits are set. Thus both interrupts can be disabled using:

ORCC      #\$50

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## BULLETIN

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# CoCo L.A.N.

Jim DeStefano

The purists and timid OS-9 users may want to pass this one by, not to mention those that feel they will never have an interest in hard disk drives. However, if your a "pedal-to-the -metal" kind of guy, this "skip one and gain two" thought might be right up your alley.

I mean, does your CoCo world include two CoCos fighting over one floppy drive? Are you trying to justify the bucks for a second floppy for the number two machine, and at the same time are you thinking about a hard disk drive for the number one machine?

There is an alternative. Rather than springing for that second floppy drive, add another hundred dollars to its cost and setup a hard disk with the two CoCos hooked to it. This is not really a review or a technical treatise, but rather a discussion of what can and can not be done in this area.

## Two CoCo's and One H.D.?

Two CoCo's can be connected to one hard disk under RS-Basic and/or OS-9. In fact, one machine can be running under RS-Basic while the other is running under OS-9. Once the system has a hard disk working, the floppy drive is used only to load programs on and off the hard disk. (Under the right conditions, a tape recorder could be used rather than a floppy drive.)

The gains with "networking" include; each of the two CoCo's can share any program on the hard disk, each CoCo runs the program in its own memory (that results in no slowing of either machine), the programs that run on a RS-BASIC system will run just fine on a networked system, and there is no new language or operating system logic to learn.

## S.C.S.I. Does the Trick

Let me explain. The basis of this adventure is the SCSI bus. I guess to one degree or another we all know the SCSI bus, as opposed to the SASI bus, allows any device, made by any manufacture, with a SCSI controller, such as a hard drive or a tape drive, to be plugged in to a SCSI bus and work with no modification to either the software or hardware. Pretty nice, this SCSI bus.

In addition to "Plug 'N Run", the SCSI bus standard has code that allows more than one computer on the bus, I call it "multi-initiator", the SCSI standard calls it "arbitration". Meaning each computer tells the peripherals what to do, even "at the same time", and none of the commands or data gets mixed. MacIntosh uses the "multi-initiator" feature of the SCSI bus in their multi-computer network.

## S.C.S.I or Just S.C.S.I. Compatible?

Since many of the hard disk suppliers talk about SCSI hard disk systems I thought it would be a simple step to implement pseudo networking on the CoCo. My initial phone calls happened to be to "SCSI compatible" system suppliers. I got the equivalent of blanks stares. The bottom line on a "SCSI compatible" bus is, they work fine with multi peripherals on the bus, but don't work with multi-computers.

However, Ken-Ton Electronics advertises their hard disk interface to be true SCSI. Long story made short. The Ken-Ton SCSI hard disk interface is 100% SCSI and RGB-DOS includes code to allow two initiation devices, two computers, two CoCos, on the bus.

If you plug in a Ken-Ton interface and a RGB-DOS in EPROMs, into each of two CoCos, and run a proper cable from each interfaces to a single hard disk drive with a SCSI controller, you will see two CoCos running from one hard disk. Each CoCo can load the same, or different, program and run it independently. I mean one CoCo can be running a FOR/NEXT loop doing a DIR, while the other CoCo is loading, saving, killing, etc. with no mix up.

## RGB Computer Systems Explains...

RGB Computer Systems told me the following. Proper SCSI "arbitration", what I have called the multi-initiator code, would allow seven CoCos to run on the bus, but RGB-DOS was written to allow only two. More than two requires lots more code (space) and the interface would have to be more complex = (\$). They concluded it would not be worth the extra cost to all

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# CoCo Clipboard Magazine

CoCo L.A.N. continued from 11

customers to provide multi-initiation arbitration for seven computers, when very few would want more than two.

Anyway, be sure to understand, all of this does NOT mean this setup is multi-user like OS-9. There are no safe guards to keep the two different computers from saving the same program name at the same time, nor is there any form of record locking. RGB-DOS does not claim there is, nor does Ken-Ton, CoCo Clipboard or myself. Therefore we all can not be responsible for the result if the following information is used improperly. That being so, the following is offered only as a curiosity.

However, if you are willing to go out on a limb, you can have two CoCos running one hard disk. I've had no mix ups so far. All that is needed is two CoCos, two Ken-Ton open collector SCSI hard disk interfaces with proper terminators, two copies of RGB-DOS from RGB Computer Systems, one "Y" cable (or Multi-Pac) to hook in the floppy controller and two 34 conductor ribbon cables, tying it all together.

## The "How-To's"

The wiring is a bit unusual since the interface has 34 pins, while the SCSI bus (hard disk) has 50. Pins 1 through 19 are the same for each, while the interface pins 20 through 34 connect to the SCSI 36 through 50. You can make the cables yourself, or Ken-Ton, or RGB will supply them.

The proper setup is to have two 34 conductor cables, total length no greater than 20 feet. One cable running from the hard disk to one interface, which is plugged into one of the CoCo's, and the other cable going from the hard disk to the other interface/CoCo. Once its all plugged together your ready to fly.

To check out two CoCos on a hard disk I wrote a routine to do record locking. SCSI does not support record locking because it was never intended to be a multi-user operating system.

So that we are all talking about the same thing, record locking prohibits a given record in a given file from being accessed. The scheme selectively allows/denies access to any record in a given file to preclude the possibility of mixing data in a record if two computers try to change the data in the record at the same time.

The accompanying listing, "LAN1.BAS", does record locking. I hesitate to show this code because the whole deal is based on a curiosity. However, if the program is used only as a demonstration, rather than

within an elaborate data base, the action can be observed, which is neat to watch.

The workings of the routine can be observed on a normal single CoCo RS-BASIC system, with floppy or hard disk, by just running it. It creates its own file and checks record 1 to see if it is locked. Of course it is not. Therefore it locks the record, displays the record locked flag and advises that the record is ready to be changed. Hitting any key at the message will release, unlock, the record and the routine ends.

To simulate another CoCo having the record locked, first RUN2000. That will lock record 1. Then run the routine. The resulting message will display the record's lock-flag and give the choice to "Wait" or "Abort". The Wait choice will keep accessing the file until it is unlocked.

Of course a second CoCo didn't lock the record, so there is no second CoCo to unlock the record. Therefore you must take the abort choice. If there was a second CoCo on the bus, it would have been the one that locked the record, and when it was finished with the record, it would have unlocked it; allowing the "waiting" CoCo to access the record. (With the demo unlock the record locked by RUN2000, with RUN 1000.)

Since the subroutine checks to make sure the proper CoCo has locked the record, each CoCo on the network must have its own "identified" copy of the sub-routine. To "personalize" a copy of "LAN.BAS" for a second CoCo; in lines 1 and 50, change 1 to 2; in line 140, change "1" to "2" and <>1 to <>2; in line 4444, change 1 to 2.

## Final Considerations

The only other thing, the 20 foot cable length limit; there are no repeaters. To get beyond 20 feet, out to 100 feet or so, the CoCos connected to the hard disk, could be equipped with a RS-232 Pak and using a Remote Terminal program, they could be operated remotely by a Terminal or another CoCo.

The point is, we can hook two CoCos to one hard disk drive, and thereby increase performance of the two machines at a cost only slightly greater than the cost of upgrading one machine. However, it can only be done with a "true SCSI" system, not "SCSI compatible".



This program is available on *ClipDisk*. A single issue is just \$9.95, a full year is only \$49.95. Phone orders are accepted at (716) 679-0126 - please have your credit card ready. You may also order by mail by enclosing your check or money order to *CoCo Clipboard Magazine*. Our address is 3742 U.S. 20, Box 3, Fredonia, NY 14063 U.S.A. Slightly higher prices for overseas orders.

Program begins on page 16

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# Painless OS9

Randy Krippner

Occasionally I get some pretty interesting comments and questions from readers. While I reply to everyone who writes, I normally don't have space to respond in the magazine. But since some of the questions or comments might be of interest to other readers, we decided to publish some of them this month.

*Q. Just what does the Basic09 PACK command do? I thought it was supposed to compile a Basic09 program, making it smaller and run faster than the source code version does. But when I PACK a program, it doesn't seem to run any faster and still takes up almost as much space as the un-Packed version.*

A. Basic09 is considerably different from the normal BASIC interpreter or compiler. When it compiles a program, it does not translate it into machine language as do true compilers, but into an intermediate code called I-Code. This I-Code is smaller than the original source code, and executes much more quickly than does a strictly interpreted language like Extended BASIC.

The interesting thing about Basic09 is that it compiles your program into I-Code as soon as you type it in! When you type in a line of Basic09 code with the editor and press ENTER, Basic09 immediately compiles it into I-Code. When you LIST or edit the code later, Basic09 de-compiles it in order to display it. But the program itself is always stored internally as I-Code.

The advantage of this is that Basic09 can immediately tell you if there is a syntax error in the line as it compiles it. And because the program is stored in memory as I-Code, it takes up a great deal less memory than it would if it were stored as the standard source code you typed in.

When you SAVE a Basic09 program, the source code, not the I-Code, is saved on disk. When you LOAD the program later, Basic09 automatically compiles it into I-Code as it is loaded. (This is why it seems to take so long to load a large Basic09 program: it has to compile it into I-Code as it loads.)

If Basic09 automatically compiles your program as you type it in, then what does PACK really do? PACK strips off any line numbers you may have used, gets rid of comments and does other things to optimize

your program to make it as small as possible. It also enables the Packed program to be run with the RunB module instead of the full Basic09 package. Since RunB is smaller and faster than the full Basic09 package, your program should run faster after it has been Packed.

The actual difference in speed and size depends on whether or not you used line numbers, the number of variables in your program and a variety of other factors. Generally speaking, a Packed program will run from 10% to 30% faster than an un-Packed program.

*Q. After programming in BASIC for some time, I took the plunge and got OS9 Level 2 and Basic09. I'm confused by how Basic09 handles variables. For example, why doesn't the following program print the value of the variable COUNT?*

```
Procedure Test
  DIM Count:INTEGER
  FOR Count=1 TO 10
    RUN ShowCount
  NEXT Count
  END
```

```
Procedure ShowCount
  PRINT Count
  End
```

A. In Basic09, variables are local to the procedure in which they are used. This means that the variable literally exists only inside of the procedure in which it is used. Other procedures cannot access the data stored in it.

In this case, the variable Count in the procedure Test and the variable Count in ShowCount are two entirely different variables, each of which exists only inside of their respective procedures. ShowCount cannot print the value of the loop running in Test because ShowCount's Count variable is entirely different.

The only way a procedure can access the data stored in variables in other procedures is if the calling procedure passes the data to the procedure being called. You'd need to re-write your program like this:

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```

Procedure Test
  DIM Count:INTEGER
  FOR Count=1 TO 10
    RUN ShowCount(Count)
  NEXT Count
  END

Procedure ShowCount
  PARAM Count:INTEGER
  PRINT Count
  End

```

This program should work correctly because Test now passes the data stored in Count to ShowCount, and ShowCount is set up to receive the data from the calling procedure with the PARAM statement.

*Q. Whenever I try to open a graphics window under OS9 the text disappears. All I see on the screen are dots.*

A. Graphics windows have no predefined character fonts. You need to merge the STDFONTS file in the SYS directory to provide the graphics windows with a character set to work with. Just add a line

to your Startup file to merge the STDFONTS file whenever you boot up. Once the STDFONTS are merged with the system, they are available to any graphics window from then on. A line like "merge /d0/sys/stdfonts" in your Startup file should do it.

*Q. Why is the mouse pointer so jittery? Would cleaning my mouse help?*

A. Probably not. Keeping the mouse clean is important, but the real problem is the interface it self.

Tandy's hi-res mouse/joystick interface is a kludge, and not a very good one at that. It is inherently unstable, and there isn't much that can be done about it without rewriting the OS9 mouse driver.

*Q. Can I add a 1.2 meg floppy drive to my Coco 3 under OS9? Would the 80 track driver provided with Config work with it?*

A. The 1.2 or 1.4 meg IBM AT type disk drives are not compatible with the Coco disk controller. These drives adhere to the 8 inch disk drive format, both

Painless OS9 continued on 16

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```

1 *** - "LAN1.BAS" - ***
* -THIS PROG REALLY IS A *
* SUB ROUTINE. *
2 /* -STATUS VARIABLE; ST$. *
** -DATA VARIABLE; DT$. **
10 GOTO200
17 ***
18 /* sub routines ***
19 ***
20 OPEN"D",#1,"ADRS REC.LOC",9:R
ETURN
30 FIELD #1, 1AS ST$,8AS DT$:RET
URN/* 1st field is lock status
of the record and identifies th
e computer that has set the lock
. The DT$ is just simulated dat
a
40 LSET ST$=ST$(1):LSET DT$=DT$(1):RETURN
50 ST$(1)=""":DT$(1)="LAN1":RETUR
N
60 I1$=INKEY$:IF I1$="" THEN60 E
LSE IF I1$<> "W" AND I1$<> "A" T
HEN SOUND50,1:GOTO60 ELSE RETURN
70 K$=INKEY$:IF K$="" THEN70 ELS
E RETURN
97 ***
98 /* prog beginning ***
99 ***
100 RN=1:GOSUB20:GOSUB30:GET #1,
RN:IF VAL(ST$)>0 THEN CLOSE#1:PR
INT@199,"RECORD"RN"IN USE";:PRIN
T@483,"WAIT OR ABORT ? "CHR$(140
)" (W/A)"; ELSE140'*** ck to if
record is in use

```

Painless OS9 continued from 15

electronically and logically. The 80 track drive descriptors provided with OS9 L2 are for 720K drives, and should work with either 5 1/4 or 3.5 inch drives of that capacity.

*Q. What is a "shell script"? I've seen this term used frequently in "another magazine", but cannot find any reference to it in the OS9 or Basic09 documentation.*

*A. You can't find a reference to it in the OS9 documentation because, strictly speaking, there is no such thing as a "shell script." What they're talking about is a procedure file. This is a text file containing OS9 commands. When you type the name of this file at the OS9: prompt, the OS9 shell executes these commands as if they had been typed from the keyboard.*

All the Microware and Tandy documentation that I've seen refer to these files as procedure files. I have yet to see a reference to anything called a "script file" in any of the official documentation. I guess someone over there just decided the term sounded better.

*Q. I'd like to transfer some text files written with VIP Writer over to an OS9 disk so I can use them with Tandy Home*

```

110 IF I1$="" THEN SOUND225,2:GO
SUB60
120 I$=INKEY$:IF I$="" AND I1$=
W" THEN PRINT@481,"WAITING, PRES
S 'A' TO ABORT";:GOTO100'*** cau
ses continuous ck for "Open" rec
ord
130 IF I$="A" OR I1$="A" THEN CL
S:PRINT"NORMALLY THE PROGRAM WOU
LD BE SENT BACK TO THE MAIN ME
NU FROM HERE":PRINT:PRINT:
END ELSE100'*** allows record ch
ange request to be Aborted
140 ST$(1)="1":LSET ST$=ST$(1):P
UT #1,RN:CLOSE#1:GOSUB20:GOSUB30
:GET #1,RN:IF VAL(ST$)<>1 THEN C
LOSE#1:GOTO100'*** Locks records
and verifies that some other LA
NS didn't lock it between the lo
cking and checking action
150 CLOSE#1:CLS:GOSUB20:GOSUB30:
GET #1,RN:PRINT@33,"STATUS FIELD
SETTING":PRINT@118,ST$"/"DT$;
:PRINT@193,"*** RECORD"RN"OK TO
CHANGE ***":PRINT@449,"- PRESS
ANY KEY TO RELEASE -";:CLOSE#1:G
OSUB70:GOSUB20:GOSUB30:ST$(1)=""
160 LSET ST$=ST$(1):PUT #1,1:CLO
SE#1:END
197 ***
198 /* setup ***
199 ***
200 CLS:CLEAR1000:GOSUB20:IF LOF
(1)=0 THEN GOSUB30:GOSUB50:GOSUB
40:PUT #1,1:CLOSE#1:GOTO100 ELSE
CLOSE#1:GOTO100'*** this line wo
uld not normally be used with th
e sub rourine

```

```

210 EXEC44539:STOP
997 ***
998 /* set var's for tests ***
999 ***
1000 GOSUB20:GOSUB30:GOSUB50:GOS
UB40:PUT #1,1:CLOSE#1:ST$="":DT$=
":GOSUB20:GOSUB30:GET #1,1:PRI
NTST$"/"DT$:GET #1,1:CLOSE#1:E
ND'*** sets status variable to n
othing, for testing prog
2000 GOSUB20:GOSUB30:ST$(1)="7":D
T$(1)="LAN7":LSET ST$=ST$(1):LS
ET DT$=DT$(1):PUT #1,1:CLOSE#1:S
T$="":DT$="":GOSUB20:GOSUB30:GET
#1,1:PRINTST$"/"DT$:GET #1,1:
CLOSE#1:END'*** Sets ST$ to 7, 1
ocks LAN1 & LAN2 out of the sys
for testing
3000 GOSUB20:GOSUB30:GET #1,1:PR
INTST$"/"DT$:GET #1,1:CLOSE#1:
END'*** allows viewing of the re
cord status
4441 /* quick save ***
4444 SAVE"LAN1":STOP

```

**CoCo  
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Magazine**

*Publisher. Is there any easy way to copy files back and forth between the standard disk format and OS9?*

*A. Radio Shack sells a utility called TRSCOPY (Cat. # 26-3263, \$24.95) that does just that. It runs under OS9 and can transfer files from RS-DOS to OS9 and vice-versa.*

*Q. Can I get a program to run automatically when I boot up OS9?*

*A. Sure. Your OS9 boot disk has (or should have) a text file called STARTUP. This file holds OS9 commands that are executed by the system whenever OS9 is booted up. Most OS9 users customize this file by adding additional commands to install special drivers, set up windows or automatically run programs.*

*To get your program to execute automatically when OS9 boots up, just use a text editor to add the name of the program you want executed to the end of the STARTUP file.*

*As always, if you have any questions or comments, please write. Include an SASE if you want a reply. You can reach me at: Randy Krippner, 1014. W. Hwy. 114, Lot 29, Hilbert, WI 54129.*

**NEW**

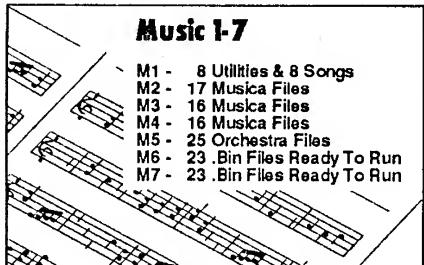
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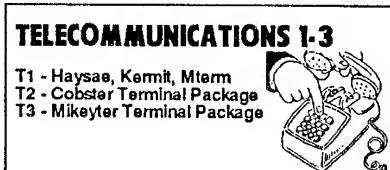
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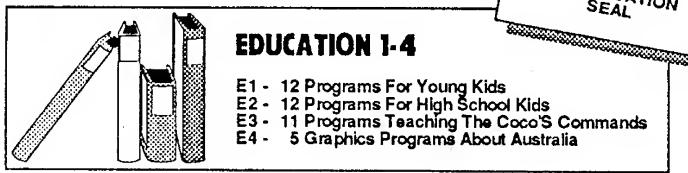
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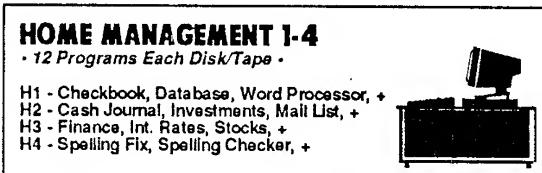
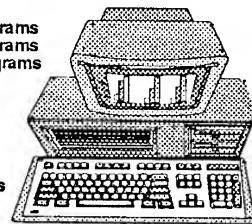
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- GR3 - 9 Coco 3 Graphic Programs
- GR4 - 22 Coco Max Pictures
- GR5 - 22 Coco Max Pictures
- GR6 - 22 Coco Max Pictures
- GR7 - 15 Coco Max Pictures
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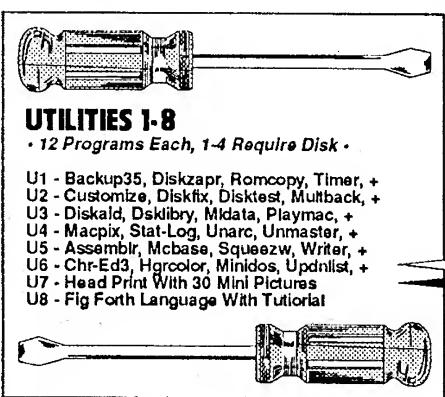
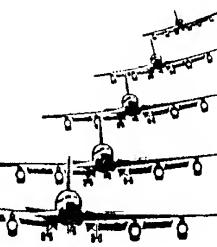
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- H4 - Spelling Fix, Spelling Checker, +

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M5	GR5		U5	GA5
M6	GR6	H1	U6	GA6
M7	GR7	H2	U7	GA7
	GR8	H3	U8	GA8
A1	GR9	H4		GA9
A2	GR10			GA10
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# Product Reviews

## Review Crew

1989 CoCo Tax Estimator  
The Ameritrust Building  
17140 Lorain Ave.  
Cleveland, Ohio, 44111  
(216) 251-8085

Pgm. Type : Income tax estimator program  
Requires : Coco 3, OS9 Level 2, Basic09,  
1 drive  
Price : Free if user sends blank disk  
and postpaid mailer.

Reviewed by Frank J. Esser

There are those of us lucky or unlucky enough to have an income which is not taxed at the time it is received. If that untaxed income is sufficient enough the lucky or unlucky person, which ever it maybe, could well be required to file with the IRS a form detailing the amount of untaxed income and the estimated tax due on that income. That tax is then due, in most cases in four equal installment through the year. Anyway the process of calculating the tax due is not always the easiest of chores for some of us. Well the problem has been solved. From Puritas Springs Software comes the tax\_estimator program.

The Tax\_Estimator is a Basic-09 program which will only run under OS9. It is stored in packed I-code, thus it will run fast but it cannot be listed. The core required is 16k of memory not counting the memory requirements of RUNB. The program also comes with the required aif file and the necessary icon to run the program under Multi-Vue. Also for the novice user a procedure, shell script, is included which will set up a window for the Tax Estimator to run in. All this and it is free. All one need do is send a formatted diskette, a return mailer and appropriate return postage to:

Puritas Springs Software  
The Ameritrust Building  
17140 Lorain Ave  
Cleveland, Ohio 44111

Now on to the program itself. It is quite straight forward. The program can be

started by setting the command or execution directory to the CMDS directory holding the estimate program and typing "estimate." The main menu displays the following options:

- 1) Open File
- 2) Edit File
- 3) Load File
- 4) Save File
- 5) Display File
- 6) Print File
- 7) Disk Menu and
- 8) Quit.

Open file is the manner in which a new file is created. It is the command you will execute the first time you use the program. Edit file and Load file are just what they say. Display file is the option that will allow you to see the results of the programs calculation and Print file simply sends the data to a hard copy device, your printer. Disk menu brings up a submenu which allow the user to change or display both the current directory or the execution directory. Quit exits the program.

The first time the program is run you will want to select option 1 from the main menu. This will allow you to build a file from scratch. You will need the following information before running Estimate. Your social security number, Number of exemptions you are claiming for this tax year, Filing status, any additional taxes you may owe, any estimated credits you might receive during the year, Estimated 1989 self-employment income, Earned income credit if any and the total net tax due from your 1988 tax return. Estimate will ask you for these items at the proper time. All you need do is enter the figures when asked. If you are not entering a figure for a given line do not just press return as the program is not setup to handle a null byte. You must enter a number of "0" to avoid the error message. The error processing routine in the program will return you the the same line to enter the correct data. So one would be wise to do it right the first time. Once all the required data is entered one can return to the main menu and select the display

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option. Doing so will display on the screen both your entered data and the calculated data. All you need do is transfer the data to the appropriate IRS forms and put them in the mail.

I have a fair amount of income which falls into the category listed above, that is it is not taxed at the time it is received. So I have performed the estimating task each year manually. I took the data I had used to calculate my 1989 estimated tax and entered it into Estimate and we agreed. So either we both made the same mistake, or the program does it stuff correctly. I like the program because it makes a task much easier to perform and keeps the records of past filings for you. The only real draw back is that it is a little late to be of much use in 1989. If the tax rules and table changes for 1990 do not effect it, it can be used for 1990. It would have been nice if the source code could have been provided, thus the necessary formulas and tables could have been updated for each coming year. Other than that I think the program is useful and worth the price of a mailer and the required postage. Thanks Puritas Springs.

**The O.S.I.T.E. File**  
Tothian Software, Inc.  
Box 663  
Rimersburg, PA 16248

Pgm. Type : Graphics adventure game  
Requires : 128K Coco 3, 1 disk drive  
(Tape version available)  
Price : 19.95

Reviewed by Randy Krippner

I've been addicted to adventure games ever since I got my hands on a copy of a crude, public domain adventure running on a CP/M machine back in the "good old days". Since then, I've probably owned just about every adventure game made for the various computers I own, and have spent many frustrating hours at the keyboard trying to work my way through many deliciously devious puzzles.

The O.S.I.T.E. File from Tothian is the latest adventure game to come this way, and working my way through it has been an interesting experience.

You take on the role of an investigative reporter who has been assigned

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## START A WAR!

### A WORLD AT WAR 2.0

This is a complete wargame design system. You build two armies, white and black, and pit them against each other. Each army can consist of up to 60 units, each having its own strength, firepower, defense, movement points, range, round of entry, icon, and many other attributes. With copy and initialize functions you can make these armies in minutes. There are 200 different terrain types including mountains, forests, lakes, hills, roads, walls, and more. It is a breeze to make your own map because you simply have to lay down the boundaries of your lake, mountain, or forest. A World At War will lay down all the edges for you, creating a very realistic map. It also has its own graphics editor so you can create or modify the terrain and icons, all of which are in 16 colors. You can even design new types of weapons and units. Combat takes everything into account: entrenching ability, terrain defense bonuses, range, armor, and more. There is a world map feature which gives you an excellent idea of how the armies are situated. You can play with one or two players, or have the computer fight itself. There are 66 combinations of fire and movement tactics that you can make the computer use. You aren't limited to battles. A World At War can simulate entire wars, in any time frame. This game is amazingly versatile, and can be used to create battles in space, in dungeons, and just about anywhere else you can think of. Six wars are provided free, which will entertain you for weeks alone. A World At War is filled with special features and is a must for all wargamers. It is 100% machine language and very fast. Requires 128k Coco III and disk drive. Joystick optional. \$25



### ROOTS

This is a machine language source file containing over 100 subroutines. It can easily be appended to your own source files and assembled with them. You will never need to call Basic subroutines again, freeing up 32k of memory. It can send characters to the screen and printer; read and write sectors to the disk drive; convert registers into ASCII numbers; generate sound; read the joysticks; create, read, and kill disk files; print directories; generate random numbers; put ASCII characters on the hi-res screen; multiply/divide/square root 16 bit registers; INPUT strings and numbers; and much more. There are Coco III subroutines too. You can use the extra memory, speed, keys, and graphics capabilities. Roots will even allow you to run two programs at once. All routines and variables are explained in the manual, and a hardcopy is also provided. Requires Coco I, II, or III with disk drive. \$20

### OMNI UTILITY 2.0

This is the last disk utility you will ever need. At the touch of a key you can copy, execute, kill, list, rename, and print a file. The directory can be alphabetized, reorganized, or sent to the printer. You can find the exact number of bytes in a file and where on the disk it is located. The disk can be formatted, verified and altered with a powerful sector editor. The backup option can backup the entire disk, a section of it, or just the granules in use. This last option will greatly increase backup speed. You can make multiple copies and thirty five tracks can be copied in two passes. Requires 128k Coco III and one disk drive with RS-DOS. \$20

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# Color Computer Software from Cer-Comp Ltd.

## Window Master V2.2

The hottest new program available for the Color Computer III! Now you can have Windows, Icons, Buttons, Pull-Down Menus, Edit Fields and Mouse Functions built into your Basic or Machine Language Programs easily and quickly, without the need for OS9.

It supports up to 31 Windows on the display, multiple fonts in 54 possible sizes and styles, Enhanced Basic Editing and much more. It adds over 50 Commands and Functions to Basic to fully support the Point & Click Window System. In fact it has so many features it would take several pages to describe them all.

It is completely compatible with existing Basic programs and takes absolutely no memory away from Basic. It contains a built in Ram Disk which is completely transparent to Basic (512k version) for enhanced operation.

It requires 1 Disk Drive, R.S. Hi-Res Interface & Joystick or Mouse. Includes both the 128k & 512k versions for only \$69.95

## Window-Ware

Window Writer - A Point & Click Word Processor, features both Mouse & Keyboard type editing, proportional printer support, powerful formatting capability, works with any printer. Requires Window Master & 512k-\$59.95

Window Basic Compiler - A Basic Compiler similar to CBASIC only it compiles all the Window Basic statements to create super fast M.L. programs & Desk Accessory programs for Window Master \$99.00

Window EDT/ASM - A full featured Editor/Assembler and Debugger for the Window Master System \$49.95

Font/Icon Editors - A utility disk with the Font & Icon Editors so you can edit or create your own, includes Basic & M.L. versions \$19.95

Advanced Programmers Guide - A manual for the Advanced Basic & M.L. Programmer with information on interfacing to Window Masters complete system including System Calls, Memory Map, Interrupt handling & Extended Memory access. \$24.95

## 512K RAM UPGRADE

Give your COCO 3 all the power it deserves with this easy to install (no soldering/plug in) 100% Tandy compatible 512K memory upgrade. Completely assembled and tested. Includes Ramdisk & Memory Test software described below. \$159.95, Upgrade + Window Master \$199

## 512K RAMDISK & TESTER

RAMDISK is an ALL Machine Language program that will give you 2 ULTRA High Speed Ram Disks in you CoCo-3. It does not need or require the OS-9 operating system. It works with R.S. DOS V1.0 or V1.1 and it is completely compatible with Enhanced Color Disk Basic! Plus it allows your CoCo-3 to run at double speed all the time even for floppy disk access!!! It will not disappear when you press reset like some other ramdisk programs. The MEMORY tester is a fast ML program to test the 512K ram. It performs several bit tests as well as an address test so you know that your 512K of memory is working perfectly.

Requires 512K & Disk \$19.95

## CBASIC Editor/Compiler

### The ULTIMATE Color Computer BASIC COMPILER!!!

If you want to write fast efficient machine language programs and you don't want to spend the next few years trying to learn how to write them in Assembly language or with a cheap compiler, then CBASIC is the answer!!!

CBASIC is the only fully integrated Basic Compiler and Program Editing System available for the Color Computer. It will allow you to take full advantage of all the capabilities available in your CoCo without having to spend years trying to learn assembly language programming. CBASIC allows you to create, edit and convert programs from a language you are already familiar with Enhanced Disk Color Basic, into fast efficient machine language programs easily and quickly.

CBASIC supports all the enhanced hardware available in the CoCo 2 & 3, including Hi-Res Graphics, & Screen displays, Extended Memory and Interrupts. We even added advanced commands not available in Basic to give you a level of control only available to very advanced Machine Language Programmers. Plus we made it exceptionally easy to use, not like some other compilers. CBASIC is the friendliest and easiest compiler available for the Color Computer.

CBASIC is a powerful tool for the Beginner as well as the Advanced Basic or Machine Language programmer. CBASIC features well over 150 Compiled Basic Commands and Functions that fully support Disk Sequential and Direct access files, Tape, Printer and Screen I/O. It supports ALL the High and Low Resolution Graphics, Sound, Play and String Operations available in Enhanced Color Basic, including Graphics H/GET, H/Put, H/Play and H/DRAW, all with 99.9% syntax compatibility.

CBASIC makes full use of the powerful and flexible GIMI chip in the Color Computer 3. It will fully utilize the 128K of RAM available and install 2 Ultra Fast Ramdisks if 512K is available, for program Creation, Editing and Compilation. You can easily access all 512K of memory in a Compiled program thru several extended memory commands that can access it in 32K or 8K blocks and single or double bytes.

CBASIC has its own completely integrated Basic Program Editor which allows you to load, edit or create programs for the compiler. It is a full featured editor designed specifically for writing Basic programs. It has block move and copy, program renumbering, automatic line number generation, screen editing, printer control and much more.

Coco 1,2 or 3 Disk \$149.00

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- Allows specifying FCB, FDB and FCC areas.
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- Selectable Foreground & Background colors.
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Coco 1, 2 or 3 Disk \$49.95

## EDT/ASM III

### DISK EDITOR ASSEMBLER

EDT/ASM III is a Disk based co-resident Text Editor & Assembler. It is designed to take advantage of the new features available in the CoCo-3 with either 128K or 512K of memory. It has 8 display formats from 32/40/64/80 columns. There is also a free standing ML Debug Monitor.

EDT/ASM III has the most powerful, easy to use Text Editor available in any Editor/Assembler package for the Color Computer.

- Local and Global string search and/or replace.
- Full Screen line editing .
- Easy to use Single key editing commands.
- Load & Save standard ASCII formatted files.
- Block Move & Copy, Insert, Delete, Overtype.
- Create and Edit files larger than memory.

The Assembler features include:

- Supports Conditional IF/THEN/ELSE assembly.
- Supports Disk Library file up to 9 levels deep.
- Supports standard Motorola directives.
- Allows multiple values in FCB & FDB directives
- Allows assembly from the Buffer, Disk or both.

Coco 1, 2 or 3 Disk \$59.95

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to find out what is going on at an organization called The Outer Space Intelligence Transmission Enterprises. This organization and its leader, Rustan Straun, engage in research in space communications. OSITE has been attempting to contact civilizations on other worlds.

Odd things have been happening at OSITE, though. The organization has become secretive, refusing to allow reporters access to parts of the facility. A scientist at OSITE has disappeared without a trace. And now there are rumors going around that OSITE has actually made contact with another world and may even have an alien at the facility.

Your task is to find out what is going on at OSITE. You slip away while waiting for a tour of the facility and sneak into the secret south wing of the facility to see what you can find. While snooping around, you can make notes about the various things you find on a separate screen.

After you have made your way through the building, you must file your final report. The program will ask you several randomly selected questions about the things you've found. If you have solved the various clues and answer the questions correctly, you'll win.

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Experienced adventure gamers will probably find OSITE on the simple side, but it ought to be challenging enough for novice adventurers. It makes for a nice change of pace from the mindless "slash and burn" arcade games that do little more than develop one's wrist muscles.

**Window Writer**  
Cer-Comp Ltd.  
5566 Ricochet Ave.  
Las Vegas, Nevada 89110  
702-452-0632

**Pgm. Type:** Word Processor  
**Requires :** 512K Coco 3, 1 drive, Window  
Master software printer, Tandy  
hi-res joystick/mouse interface  
**Price :** \$59.95

Reviewed by Randy Krippner

Cer-Comp is well known for providing extremely powerful, useful software for the Color Computer 2 and 3. Window Writer

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## BOWLING LEAGUE SECRETARY \*1986



Reviewed  
Sept. 1986 pg 141  
April 1987 pg 140

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is a relatively new addition to the line of software Cer-Comp has added that takes advantage of the Window Master mouse driven, windowing environment for the Coco 3.

I reviewed Window Master itself a few months back, and was enormously impressed with it, especially from a programmer's point of view. While I did not find Window Writer quite as impressive, it is undoubtedly an extremely powerful word processor.

In order to be able to use Window Writer, you must first have Window Master. You need to boot up Window Master first, then run Window Writer. This two step process is a bit inconvenient, but understandable since Window Writer makes use of Window Master's mouse driver, windowing utilities, etc.

Window Writer is similar in its capabilities to Cer-Comp's other word processor, Text Pro. If you have used Text Pro in the past, you ought to feel right at home using Window Writer, since it shares many of the same functions and commands that Text Pro uses. The main difference between the two is that Window

Writer makes use of the mouse for selecting options from menus, selecting text and quickly repositioning the cursor. Window Writer also features on-line help that can be displayed by hitting the Break key.

Window Writer has some of the most powerful text formatting capabilities I've ever seen in a Coco word processor. It includes the usual features any good word processor requires, so I'll concentrate instead on those features that make Window Writer so unique and powerful.

It has the usual block functions for moving, copying and deleting blocks of text. Just select the section of text you want to include in the block with the mouse and select which operation you wish to perform. One very handy feature is the ability to save a block of text to a disk file.

Unlike most other Coco word processors where the size of your document is limited to available memory, Window Writer lets you work with text files that are larger than available memory. You can "Roll text to disk" to write part of the buffer to a disk file, and then read additional text from the file.

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**ec**

the envelope for the  
OS-9 C compiler!

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To use ec, you'll need:

a Coco 3, 512K RAM, OS-9 Level II, RunB, SysCall, gfx2, and the Radio Shack C compiler.

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Window Writer allows you to define your own function keys. You can call up a window which will allow you to program a function key, delete one, display them, or save/load sets of function key definitions. Being able to define your own function keys is extremely useful. You can define a function key to perform a complex formatting task automatically. After programming the key, you only need to hit a single control key combination to have the task performed for you.

There is a split screen mode, which will divide the screen into two halves so you can edit one part of the document while a different part is displayed on the screen.

Where Window Writer really shows its power is in its formatting capabilities. It has more formatting power than just about any other Coco word processor on the market.

You can, of course, define the usual formatting controls for margins, page length, page numbers, etc. The formatting controls can be set up from a menu, or embedded in your text itself.

In addition to this, Window Writer has a host of other formatting options.

It features headers and footers, of course. Also included are various justification options and options to embed special printer codes in the text to have your printer do underlining, sub/super-scripting, etc. It is also one of the few Coco word processors around that will automatically handle footnotes and table of contents generation for you.

It is also, to a certain extent, programmable. You can insert control codes in a document that will cause the word processor to perform certain activities while formatting or printing a document.

By embedding certain control codes in a text file, you can have Window Writer prompt the user to enter data at specific places in a file, which is useful for having the user type in names and addresses for form letters, for example. Window Writer typed by the user as if it were part of the text file itself.

One function allows you to embed a file name in a text file. Window Writer will then open that file and process it as if it were a part of the original file.

If that's not enough power for you, how about being able to process data files from within a document? You can do that with Window Writer as well. You can open a data file and either read in text one line at a time, or access the data in the file as if it were a Random or direct access data file! There is even a FIELD statement to specify record elements that is similar

to that used in BASIC, so you can pull in individual records and elements within records to include them in your text file. One example shown in the documentation is a simple "program" that opens a data file and automatically reads in names and addresses stored in the file for inclusion in a form letter.

Actually printing a formatted document is where Window Writer really shows its stuff. This word processor gives you almost total control over how your finished document will look. Although it cannot handle graphics like a desk top publisher can, it features formatting functions that even some low-end DTP software don't have. Window Writer can even handle proportionally spaced print on printers that support it, and the program includes printer drivers for just about every printer I've ever heard of, including one for the Okidata Laser printer.

All of this power comes with a price, though. Window Writer is not an easy program to learn to use. Although much easier to use than it's cousin, Text Pro, because of the mouse driven user interface, there remain dozens of "dot" type commands to be learned in order to get the most out of the program. But then again, no really powerful word processor is easy to use. Writing tutorials for MS-DOS word processors such as WordPerfect and Microsoft Word has become a significant industry, for example. No matter what computer you're using, you have to endure this kind of complexity if you want a really powerful, flexible word processor.

I didn't like the documentation that came with Window Writer. Although complete, I felt it didn't go into enough detail about many of the more complex functions of the program. The Table of Contents was detailed and complete, but there is no alphabetical index, something I think is necessary when trying to look up a specific function for a program this complex. A summary or "cheat sheet" containing a brief list of all the commands would have been nice to have as well.

But aside from a few complaints about the documentation, I found Window Writer a solid, very powerful program. It is copy protected, but a non-working backup can be made. If something happens to the original copy, backing up the non-working backup copy to the original disk usually will restore it.

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## CoCo Clipboard Magazine

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**Basic Screen Editor, BSE**  
Second City Software P.O. Box 72956  
Roselle, IL 60172 312/653-5610

**Pgm. Type:** Full Screen Editor  
under RS-DOS (BASIC)  
**Requires :** Any CoCo  
**Price :** \$19.95 + \$2.50 shipping

Review by: Jim DeStafeno

Simply put, BSE's duty is to replace the Edit command with some real BASIC program editing power. That it does with ease. It works under BASIC, so you can write and RUN a BASIC program with BSE installed and working. It is invisible until one of its commands are activated.

"Full Screen" means the cursor can be moved anywhere on the screen. The arrows keys make that happen. "Editor" means the screen display can be changed, somewhat like a word processor, but with less power. The operator signals BSE when editing is wanted with the Control key, or on the -1/-2, with the Clear Key.

Alone, the arrow keys move the cursor anywhere on the screen. Using the <Control Key> with the <L>/<R> arrow keys, the cursor is moved to the beginning/end of a BASIC line; with the <S>/<F> keys, the slow or fast speed is activated. The whole operation is just that simple.

Positioning the cursor on a line, (if the line is not on the screen, a simple LIST will get it there), and using the <Control> and a code key, the operator can: delete a line, delete from the cursor to the end of a line or split a line after the cursor. The split off part drop down to a position below the original line. (A whole new line can be made just by adding a number to the split-off part). Another code key sequence joins two lines, a very valuable feature. Also, characters can be added to a line either by insertion or overstrike, called with the Control key and still another code key. The BREAK key along deletes the character under the cursor.

Move cursor; delete line, delete right of cursor, split a line and join two lines; with character delete, insert or overstrike is the work that can be done. An example of what can be done: Overstrike a line number with another line number, hit ENTER and there is a copied/moved line; (the original is still in place). Split a line, go into Insert, input a line number in front of the line part to be split off, hit ENTER and there is a new line. Note: to complete any action, ENTER

must be pressed. A nice action controlling feature.

To spice things up a bit, BSE has repeating keys, lowercase input is converted to uppercase, except characters inside of quotes (""); RESET protection, works with Radio Shack BASIC and is compatible with EPROMed RGB-DOS, ADOS and JDOS. In addition, its ML code is relocatable, and is not copy protected. It comes with six pages of easy to understand instructions, including a "Command Quick Summary List". On top of all that, there is a CONFIG program to set a "best screen" display for different CoCos. And the "cream of the cream", the programmer's name, address and phone number is right in the instruction. Second City Software is doing things right.

What about the negatives? Other than wishing to be able to change the delay time before the repeat mode begins and changing the repeat rate; and have that time and rate remain unchanged no matter which speed mode was in use; (all of which might be able to be done in the CONFIG program, as is done in TW-80); I didn't find anything I'd change.

Hey, some CoCo editors are not full screen, some don't show the editing inputs while they are being done, some don't work in the 80 column mode, some only work with special SAVES and some just plain don't work. BSE cares for all that and more, and at a fair price. I ain't send'en my copy back; its the best CoCo Full Screen Editor I've seen so far.

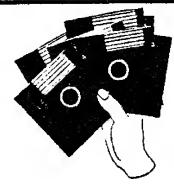
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# Glad You Asked . . ."



Robert Gault

This column was not intended for full programs, but when the editor is the person who "asks" one tends to respond. Just joking Ted!

There are available commercially, electronic scales which report not only the weight of a letter or package, but give you the least expensive form of shipping and cost as output. A program which could do this seemed to Ted to be a perfect compliment to the Clipboard CCBMS series of articles.

The following is a group of four programs designed to do the job. The program ZONE creates two data files containing the U.S and UPS zip code data. This must be supplied by the user as it is user specific. The program US RATE creates two data files for U.S. Priority Mail and U.S. Fourth Class Mail. The program UPS RATE creates a data file of UPS Ground Service, UPS 2ND Day Air, and UPS Next Day Air rates.

The rate programs will take data up to 70 pounds if data is supplied by the user. I have supplied data up to 10 pounds as a demonstration.

Once the data files are created, the program MAIL calculates the cost of and least expensive form of shipping from U.S. First Class, Priority, Fourth Class, and Express Mail; also from UPS Ground, 2ND Day Air, Next Day Air, and Next Day Letter service. The user must supply the zip code prefix (###xxx) and the weight of the package from a fraction of an ounce up to 70 pounds.

Included in the calculations are the BMC discount for U.S. mail. The user must supply the U.S. local zip and BMC zip information when creating the MAIL program. See the comments at the front of the program. This information and the rate charts can be obtained by calling your local post and UPS offices.

## Programming Considerations

There are some interesting tricks and design considerations involved in the programs which the reader may want to study. The programs are written in Tandy Basic to best match the CCBMS series even though they should have been easier to write in another language. The programs are in-

tended for the Coco3 80 column format and will not run as is on earlier machines.

To conserve both disk and memory, the data files are created as binary files rather than sequential or direct (random access.) Only one or two bytes are needed in this format to store a number (\$.01 - \$655.35) as apposed to five or six bytes in floating point or string format. This allows all five data files to be present at the same time in 64K of memory. Numbers are stored in integer mode (no decimal point) and divided by 100 to convert back to \$.00 format. The space saved is even more than you might expect from the above since I do not have to use arrays; a format which has considerable overhead.

Three of the four programs have almost identical code but could not conveniently be merged into one program. To save the reader considerable typing, I have set the programs up so that only MAIL and ZONE, must be typed in full. US RATE and UPS RATE only require typing lines that are different from ZONE and then MERGEing them into ZONE. Therefore DO NOT change any line numbers or add/subtract lines when typing.

Another reason for not changing line numbers is based on the type of error trapping used in the programs. The syntax, IF ERLIN=xxxx THEN, is used. There is a bug in the Tandy ROMs which will not update the xxxx if RENUM is used (; the subject for another article.)

The programs use scroll protection of lines (top of screen), repeat keys, and error trapping of non-existent disk files. This last is tricky as errors in LOADM and RUN can not be trapped by ON ERR GOTO, but OPEN errors can be trapped.

There is a very large amount of data that must be entered by the user in the form of zip codes and rates. It took me about 40 minutes to create both of the zip code tables (1000 entries each) from scratch. Since these tables are very similar, the time can probably be shortened by completing one table, copying it under the second table's name, and then editing the differences. I did not time how long it took to setup 10 lbs worth of rates. Seventy pounds worth may be beyond

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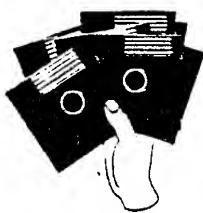
## CoCo Clipboard Magazine

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the patience of most readers even though the data should be entered. Note that any of the tables may be compiled over the course of several sessions. Partial saves are advisable.

As always with this type of program, the author does not guarantee the user from monetary loss. While I believe the results to be accurate, the user should check them. Also the program can not decide for you the tradeoff of cost vrs. speed and quality of service.

Send questions to me in care of Clipboard or leave a message at J&L's Coco Corner BBS, (313)-292-4713 8/N/1.



This program is available on *ClipDisk*. A single issue is just \$9.95, a full year is only \$49.95. Phone orders are accepted at (716) 679-0126 - please have your credit card ready. You may also order by mail by enclosing your check or money order to *CoCo Clipboard Magazine*. Our address is 3742 U.S. 20, Box 3, Fredonia, NY 14063 U.S.A. Slightly higher prices for overseas orders.

### Pgm Name: ZONE.BAS

```

10 GOTO160
20 POKE&H87,0:RETURN
30 T=Y*80+X+A:IFT<172 OR T>1760
THEN RETURN
40 Y=INT(T/80):X=T-80*Y:RETURN
50 '
60 '
70 '
80 '
90 '
100 EXEC&HADFB:AN$=CHR$(PEEK(&H8
7)):RETURN
110 CLS:LOCATE0,0:PRINTTAB(4)NM$"
;" Postal Zone Chart Data File C
reator"TAB(5)"(c) Sept., 1989 by
Robert Gault":PRINT
120 A=&H21:B=&H40
130 POKECL,A:POKECL+1,B:POKEST,A
:POKEST+1,B:POKESC,A:POKESC+1,B:
POKEBS,A:POKEBS+1,B:RETURN:'PROT
ECT TOP TWO LINES
140 A=&H20:B=0:POKECL,A:POKECL+1
,B:POKEST,A:POKEST+1,B:POKEBS,A:
POKEBS+1,B:POKESC,A:POKESC+1,B:A
TTRO,0:POKE&HFFD8,0:RGB:CLS1:END
:'UNPROTECT TOP TWO LINES
150 LOCATE X,Y:ATTR0,1:LOCATE X,
Y:ATTR0,0:AN$=INKEY$:IFAN$=""THE
N150 ELSE FORW=1TO100:NEXT:FORM=
&H152 TO&H159:POKE M,&HFF:NEXT:R
ETURN
160 WIDTH80:POKE&HFF9A,0:POKE&HF
FB0,0:POKE&HFFB8,63:CLEAR200,&H7
B00:ZP=&H7B00:BS=&HF7BC:SC=&HF85
7:CL=&HF68D:ST=&HF6A3:ON BRK GOT

```

Program continues on 27

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Program continued from 26

```

0140
170 GOSUB110:GOSUB120:LOCATE0,4:PRINT"Do you want a description of this program. <Y or N>";180 GOSUB100:IFAN$="Y"THENGOSUB600ELSEIFAN$<>"N"THEN180
190 ON ERR GOTO650
200 CLS:PRINT"Select type of data file, U.S. mail or UPS service .":PRINT"1. U.S. mail":PRINT"2. UPS service"
210 GOSUB100:GOSUB20:IFAN$="1"THEN NM$="US_ZONE" ELSE IFAN$="2" THEN NM$="UPS_ZONE" ELSE 210
220 LOADM"BLANK"
230 CLS:OPEN"I",1,NM$+"/BIN":CLOSE:POKE&HFFD9,0:POKE&HFF40,0:PRINT"Data file ";NM$;" already exists. Select task.":PRINT"1. Exit program":PRINT"2. Change data":PRINT"3. Erase/Create file."
240 GOSUB100:GOSUB20:ON VAL(AN$) GOTO140,250,260:GOTO240
250 LOADM NM$
260 LOCATE0,1:FORI=1TO5:PRINT"ZIP Code Zone ";:NEXT
270 '
280 ,
290 GOSUB120
300 I=0
310 PRINT:POKE&H87,0:II=I*100:FORJ=0TO99:PRINTUSING"###";II+J::PRINTSTRING$(9,"."):PRINTMID$(STR$(PEEK(ZP+II+J)),2);":":NEXTJ
320 ,
330 PRINT"Arrows to move. (F)oward (B)ack (Q)uit/Save Enter Zone (#)"
340 PRINT"(P)age to zip code #0 use #0 for nonexistent zones";
350 POKE&HFFD8,0:X=12:Y=2
360 GOSUB150:ON INSTR(1,CHR$(8)+CHR$(9)+CHR$(94)+CHR$(10)+"012345678FBQP",AN$) GOTO370,370,520,520,410,410,410,410,410,410,410,410,410,450,450,470,540,540:GOSOUND100,1:GOTO360
370 IFAN$=CHR$(8)THEN A=-16 ELSE A=16
380 ,
390 GOSUB30:GOTO360
400 '
410 A=VAL(AN$):PRINTAN$;".":POKEZP+II+5*(Y-2)+INT((X-12)*.0625+.5);A:A=16:GOTO390
420 ,
430 ,
440 ,
450 LOCATE0,23:I=I+1:IFI=10 THEN I=9
460 GOTO310
470 LOCATE0,23:I=I-1:IFI=-1 THEN I=0
480 GOTO310
490 LOCATE0,23:PRINT"Select the most significant zip value: #00 Input #->";500 '
510 GOSUB100:POKE&H87,0:N=VAL(AN$):IFN<0 OR N>9 THEN510ELSEPRINT N:I=N:GOTO310

```

```

520 IFAN$=CHR$(10)THEN A=80 ELSE A=-80
530 GOSUB30:GOTO360
540 GOSUB20:CLS:PRINT"Are you ready to save the data file? <Y or N>";550 GOSUB100:IFAN$="Y"THEN SAVEM NM$,ZP,ZP+&H4FF,&HA027 ELSEIFAN$<>"N"THEN550
560 PRINT"Do you want to exit program? <Y or N>";570 GOSUB100:IFAN$="Y"THEN140
580 PRINT"Return to"::PRINT"1. " NM$:PRINT"2. Reselect chart type":PRINT"Select <1 or 2>";590 GOSUB100:IFAN$="1"THEN310 ELSE IFAN$="2"THENPRINT:GOTO200 ELSE590
600 CLS:PRINT"This program will create a data file on disk of the U.S. and UPS ZIP code zones. The zones associated with the ZIPs will be left blank to be filled in by the user.":610 PRINT" This will be tedious so be prepared."
620 PRINT"Note that there is a repeat key function active and arrows have partial line wrap. Also partial saves of the data file are OK."
630 LOCATE 20,20:PRINT"Hit any key to continue";640 GOSUB100:RETURN
650 '
660 IFERNO=190 THENPRINT"Working . . .":POKE&HFFD9,0:FORI=0TO&H4FF:POKEZP+I,0:NEXT:POKE&HFFD8,0:SAVEM"BLANK",ZP,ZP+&H4FF,&HA027:GOT0230
670 IFERNO=26 THENPOKE&HFF40,0:GOTO260
680 CLS:PRINT:PRINT"Error number ";ERNO;" in line";ERLIN
690 GOTO690

Pgm Name: US RATE.BAS

10 GOTO160
20 POKE&H87,0:RETURN
30 T=Y*80+X+A:IFT<327 OR T>1120 THEN RETURN
40 Y=INT(T/80):X=T-80*Y
50 IF NN=1 THEN IF A>0 THEN IF X<17 THEN X=17
60 IF NN=1 THEN IF A<0 THEN IF X<17 THEN Y=Y-1:X=72
70 IF NN=2 THEN IF A>0 THEN IF X<10 THEN X=10
80 IF NN=2 THEN IF A<0 THEN IF X<10 THEN Y=Y-1:X=73
90 RETURN
100 EXEC&HADFB:AN$=CHR$(PEEK(&H87)):RETURN
110 CLS:LOCATE0,0:PRINTTAB(4)NM$;" Postal Rate Chart Data File Creator"TAB(5)"(c) Sept., 1989 by Robert Gault":PRINT:RETURN
120 A=&H22:B=&H80
130 POKECL,A:POKECL+1,B:POKEST,A:POKEST+1,B:POKESC,A:POKESC+1,B:POKEBS,A:POKEBS+1,B:RETURN:'PROTECT TOP TWO LINES
140 A=&H20:B=0:POKECL,A:POKECL+1,B:POKEST,A:POKEST+1,B:POKEBS,A:POKEBS+1,B:POKESC,A:POKESC+1,B:POKEBS+1,B:RETURN:'UNPROTECT TOP TWO LINES
150 LOCATE X,Y:ATTR0,1:LOCATE X,Y:ATTR0,0:AN$=INKEY$:IFAN$=""THE N150 ELSE FORW=1TO100:NEXT:FOR M=&H152 TO&H159:POKE M,&HFF:NEXT:RETURN
160 WIDTH80:POKE&HFF9A,0:POKE&HFFB0,0:POKE&HFFB8,63:CLEAR200,&H7AFF:ZP=&H7B00:BS=&H7BC:SC=&H857:CL=&H68D:ST=&H6A3:ON BRK GOT0140
170 GOSUB110:GOSUB120:LOCATE0,4:PRINT"Do you want a description of this program. <Y or N>";180 GOSUB100:IFAN$="Y"THENGOSUB600ELSEIFAN$<>"N"THEN180
190 ON ERR GOTO650
200 CLS:PRINT"Select the correct data file.":PRINT"1. Priority Mail.":PRINT"2. Fourth Class Mail.":PRINT"Input <1 or 2>";210 GOSUB100:IFAN$="1"THEN NM$="US RATEP":NN=1:NM$="PRIORITY MAIL" ELSE IF AN$="2"THEN NM$="US RATEF":NN=2:NM$="FOURTH CLASS MAIL" ELSE 210
220 LOADM"BLANK"
230 CLS:OPEN"I",1,NM$+"/BIN":CLOSE:POKE&HFFD9,0:POKE&HFF40,0:PRINT"Data file ";NM$;" already exists. Select task.":PRINT"1. Exit program":PRINT"2. Change data":PRINT"3. Erase/Create file."
240 GOSUB100:GOSUB20:ON VAL(AN$) GOTO140,250,260:GOTO240
250 LOADM NM$
260 LOCATE0,1:PRINT"WEIGHT"TAB(2) "US ZONES":PRINT"not to exceed"TAB(19) NN$:PRINT" 1bs ";
270 IFNN=1 THEN PRINT" 1,2, &";:FORI=3TO8:PRINT I;STRING$(8," "):NEXT:LOCATE 0,4
280 IFNN=2 THEN PRINT" Local 1&2";STRING$(7," "):FOR I=3TO8:PRINT I;STRING$(6," "):NEXT:LOCATE0,4
290 GOSUB120
300 I=0
310 POKE&H87,0:POKE&HFFD9,0:II=I*10:FORJ=1TO10:PRINTUSING"###";II+J::IF NN=1 THEN IJ=I*120:IK=12*J:PRINTSTRING$(5," "):FORK=0TO5:M=ZP+IJ+IK+K+K:P=.01*(PEEK(M)*256+PEEK(M+1)):PRINTSTRING$(4," "):PRINTUSING"$$##.##";P::NEXTK:PRINT:NEXTJ
320 IFNN=2 THEN IJ=I*160:IK=16*I:FOR K=0TO7:M=ZP+IJ+IK+K+K:P=.01*(PEEK(M)*256+PEEK(M+1)):PRINTSTRING$(2," "):PRINTUSING"$$##.##";P::NEXTK:PRINT:NEXTJ
330 PRINT"Arrows to move. (F)oward (B)ack (Q)uit/Save CLEAR erase entry"
340 PRINT"(P)age to 1bs #0 Enter rates $00.00":FORTP=1TO7:PRINT:NEXT
350 POKE&H87,0:POKE&HFFD8,0:Y=4:

```

Program continues on 29

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Program continued from 27

```

IF NN=1 THEN X=17 ELSE X=10
360 GOSUB150:ON INSTR(1,CHR$(12)
+CHR$(8)+CHR$(9)+CHR$(94)+CHR$(1
0)+"0123456789FBQP",AN$) GOTO400
,370,370,520,520,410,410,410,410
,410,410,410,410,410,410,450,470
,540,490:SOUND100,1:GOTO360
370 IF NN=1 THEN IFAN$=CHR$(8)TH
EN A=-11 ELSEA=11
380 IF NN=2 THEN IF AN$=CHR$(8)T
HEN A=-9 ELSE A=9
390 TT=0:GOSUB30:GOTO360
400 TT=INT(TT*.1):GOTO420
410 IFTT<1000THEN TT=TT*10+VAL(A
N$) ELSE SOUND100,1:GOTO360
420 LOCATE X-4,Y:PRINTUSING"$$###
.##";TT*.01;:IF NN=1 THEN NM=ZP+IJ
+12*(Y-3)+INT((X-17)*.1818+.5)
430 IF NN=2 THEN M=ZP+IJ+16*(Y-3)
+INT((X-10)*.222+.5)
440 TM=INT(TT*.00390625):TN=TT-T
M*256:POKE M, TM:POKE M+1, TN:GOTO
360
450 TT=0:LOCATE0,23:I=I+1:IFI=7
THENI=6
460 GOTO310
470 TT=0:LOCATE0,23:I=I-1:IFI=-1
THEN I=0
480 GOTO310
490 LOCATE15,18:PRINT"Select the
most significant lbs value: #0"
500 PRINTTAB(15)"Input # ->";
510 GOSUB100:POKE&H87,0:N=VAL(AN
$):IFN<0 OR N>7 THEN510ELSEPRINT
:I=N:GOTO310
520 IFAN$=CHR$(10)THEN A=80 ELSEA
=-80
530 TT=0:GOSUB30:GOTO360
540 GOSUB20:CLS:PRINT:PRINT"Are
you ready to save the data file?
<Y or N>"
550 GOSUB100:IFAN$="Y"THEN SAVEM
NM$,ZP,ZP+999,&HA027 ELSEIFAN$<
>"N"THEN550
560 PRINT"Do you want to exit pr
ogram? <Y or N>"
570 GOSUB100:IFAN$="Y"THEN140
580 PRINT"Return to:":PRINT"1. "
;NM$:PRINT"2. Reselect chart typ
e":PRINT"Select <1 or 2>";"
590 GOSUB100:IFAN$="1"THENPRINT"
1":GOTO310ELSE IFAN$="2"THENPRIN
T"2":GOTO200 ELSE590
600 CLS:PRINT"This program will
create a data file on disk of th
e US service postal rates. Th
e rates must be filled in by the
user.";
610 PRINT" This will be tedious
so be prepared."
620 PRINT"Note that there is a r
epeat key function active and ar
rows have partial line wrap.
Also partial saves of the data f
ile are OK."
630 LOCATE 20,20:PRINT"Hit any k
ey to continue";
640 GOSUB100:RETURN
650 ,
660 IFERNO=190 THENPRINT"Working
...":POKE&HFFD9,0:FORI=0TO&H4FF
:POKEZP+I,0:NEXT:POKE&HFFD8,0:SA

```

```

VEM"BLANK",ZP,ZP+&H4FF,&HA027:GO
TO230
670 IFERNO=26 THENPOKE&HFF40,0:G
OTO260
680 CLS:PRINT:PRINT"Error number
";ERNO;" in line ";ERLIN
690 GOTO690

Pgm Name: UPS RATE.BAS

10 GOTO160
20 POKE&H87,0:RETURN
30 T=Y*80+X+A:IFT<327 OR T>1120
THEN RETURN
40 Y=INT(T/80):X=T-80*Y:IF A>0 T
HENIF X<9 THEN X=9
50 IFA<0 THEN IF X<9 THEN Y=Y-1:
X=73
60 '
70 '
80 '
90 RETURN
100 EXEC&HADFB:AN$=CHR$(PEEK(&H8
7)):RETURN
110 CLS:LOCATE0,0:PRINTTAB(4)NM$"
UPS Service Rate Chart Data F
ile Creator"TAB(5)"(c) Sept., 198
9 by Robert Gault":PRINT:RETURN
120 A=&H22:B=&H80
130 POKECL,A:POKECL+1,B:POKEST,A
:POKEST+1,B:POKESC,A:POKESC+1,B:
POKEBS,A:POKEBS+1,B:RETURN: 'PROT
ECT TOP TWO LINES
140 A=&H20:B=0:POKECL,A:POKECL+1
,B:POKEST,A:POKEST+1,B:POKEBS,A:
POKEBS+1,B:POKESC,A:POKESC+1,B:A
TTR0,0:POKE&HFFD8,0:RGB:CLS1:END
: 'UNPROTECT TOP TWO LINES
150 LOCATE X,Y:ATTR0,1:LOCATE X,
Y:ATTR0,0:AN$=INKEY$:IFAN$=""THE
N150 ELSE FORW=1TO100:NEXT:FOR M
=&H152 TO&H159:POKE M,&HFF:NEXT:
RETURN
160 WIDTH80:POKE&HFF9A,0:POKE&HF
F80,0:POKE&HFFB8,63:CLEAR200,&H7
AFF:ZP=&H7B00:BS=&HF7BC:SC=&HF85
7:CL=&HF68D:ST=&HF6A3:ON BRK GOT
O140
170 GOSUB110:GOSUB120:LOCATE0,4:
PRINT"Do you want a description
of this program. <Y or N>";"
180 GOSUB100:IFAN$="Y"THENGOSUB6
00ELSEIFAN$<>"N"THEN180
190 ON ERR GOTO650
200 NM$="UPS RATE"
210 '
220 LOADM"BLANK"
230 CLS:OPEN"I",1,NM$+"/BIN":CLO
SE:POKE&HFFD9,0:POKE&HFF40,0:PRI
NT"Data file ";NM$;" already exi
ts. Select task.":PRINT"1. Exit
program":PRINT"2. Change data":P
RINT"3. Erase/Create file."
240 GOSUB100:GOSUB20:ON VAL(AN$)
GOTO140,250,260:GOTO240
250 LOADM NM$
260 LOCATE0,1:PRINT"WEIGHT"TAB(2
1)"UPS ZONES"TAB(32)"AIR":PRINT
"not to exceed"TAB(15)"GROUND SE
RVICE"TAB(21)"2ND DAY NEXT DAY":
PRINT" lbs ";:FORI=2TO8:PRINT"
";I;" ":"NEXT:PRINT" A
K"

```

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so be prepared."

620 PRINT"Note that there is a repeat key function active and arrows have partial line wrap. Also partial saves of the data file are OK."

630 LOCATE 20,20:PRINT"Hit any key to continue";

640 GOSUB100:RETURN

650 '

660 IFERNO=190 THENPRINT"Working . . .":POKE&HFFD9,0:FORI=0TO&H4FF:POKEZP+I,0:NEXT:POKE&HFFD8,0:SA VEM"BLANK",ZP,ZP+&H4FF,&HA027:GO TO230

670 IFERNO=26 THENPOKE&HFF40,0:G OTO260

680 CLS:PRINT:PRINT"Error number ";ERNO;" in line";ERLIN

690 GOTO690

## Pgm Name: MAIL.BAS

0 CLS:WIDTH80:PRINT"PLEASE READ THE FOLLOWING AND COMPLY. YOU MAY THEN REMOVE LINE 0":PRINT:GOTO 800

10 POKE&HFFD9,0:FILES 5,500:CLEA R200,&H6700:WIDTH80:GOTO110

20 POKE&HFFD9,0:WIDTH80:ON ERR G OTO 650:GOTO270:' Fast reentry into program after data files have been loaded.

30 CLS:PRINTTAB(25)"Postal Rate Calculator":PRINTTAB(20)"(c) Sept., 1989 by Robert Gault":RETURN

40 LOCATE0,3:PRINT"zip code number -->";:PRINTUSING"###";ZI;:PRINT"XXX":RETURN

50 ' PLEASE MODIFY THE NEXT LINE S BASED ON YOUR ZIP CODE CHART

60 ' INSERT THE LOCAL ZIP CODE RANGE

70 LC=0:BM=0:IF ZI>=480 AND ZI<=482 THEN LC=-1

80 ' INSERT THE POST OFFICE BMC VALUES FOR \$.20 DISCOUNT

90 IF (ZI>=434 AND ZI<=436) OR (ZI>=465 AND ZI<=468) OR (ZI>=480 AND ZI<=497) THEN BM=-1

100 RETURN

110 ON ERR GOTO 650

120 PRINT"One moment please while I load the data...."

130 POKE&HFFD8,0

140 ' Next 5 lines test for the presence of the data files. If they don't exist

150 ' then the error trap will activate. Error traps don't affect LCADM.

160 OPEN"I",#1,"US ZONE/BIN"

170 OPEN"I",#2,"UPS ZONE/BIN"

180 OPEN"I",#3,"US RATEP/BIN"

190 OPEN"I",#4,"US RATEF/BIN"

200 OPEN"I",#5,"UPS RATE/BIN":CL OSE:FILES 2,256

210 LOADM"US ZONE/BIN"

220 LOADM"UPS ZONE/BIN",&HFB00

230 LOADM"US RATEP/BIN",&HF600

240 LOADM"US RATEF/BIN",&HF100

250 LOADM"UPS RATE/BIN",&HEC00:P

OKE&HFFD9,0

260 ' The next line indicates where the data files actually LOAD M

270 L1=&H7B00:L2=&H7600:L3=&H710 0:L4=&H6C00:L5=&H6700

280 ON BRK GOTO740:POKE&HFF9A,0:POKE&HFFB0,0:POKE&HFFB8,63

290 'CLS1:' Optional color scheme for those who don't like above line.

300 GOSUB30:LOCATE0,3:PRINT:LOCA TE0,3:INPUT"Input destination Zip code prefix; 3 numbers only ## #XXX.";ZI

310 IFZI>999 THEN SOUND 50,2:GOT O300

320 GOSUB30:GOSUB40:LOCATE0,5:PR INT:PRINT:LOCATE0,5:PRINT"Input exact package weight in lbs.":PR INTTAB(5)"0 indicates weight to be entered in ounces up to 11oz. "

330 WO=0:INPUT"Must be less than 70 lbs. wt.":WT:IFWT=0 THEN IN PUT"Weight in ounces":WO ELSE TP =INT(WT):AW=-(TP<WT)+TP

340 IFWT>70 OR WO>11 OR (WO=0 AND WT=0)THEN SOUND50,2:GOTO320

350 GOSUB30:GOSUB40:PRINT:PRINT"Package weight -->";:IF WO=0 THEN PRINTUSING"##.###";WT;:PRINT"1bs." ELSE PRINTUSING"##.###";W O;:PRINT" oz."

360 IFWT=0 THEN TP=INT(WO):CT=((TP=WO)+TP)\*20+25:PM=0:FC=0:GS=0: A1=850:A2=0:RT\$="First Class Mai 1"

370 ZU=PEEK(L1+ZI)

380 IFZU=0THENEX=0ELSEIFWT=0THEN EX=8.75ELSEIFWT<=2THENEX=12ELSEIFWT<=5THENEX=15.25ELSEEX=0

390 ZP=PEEK(L2+ZI):IFZP=0THENA1=0

400 IFZU=0ANDZP=0THEN580

410 IFWT=0ANDZU<>0THEN560

420 IFZU=0THENPM=0:FC=0:GOTO480

430 IFZU<3 THEN PZ=0 ELSE PZ=ZU-3

440 M=L3+AW\*12+PZ\*2:PM=PEEK(M)\*2 56+PEEK(M+1)

450 GOSUB70:M=L4+AW\*16:IF LC=0 THEN IF ZU<3 THEN M=M+2 ELSE M=M+(ZU-1)\*2

460 FC=PEEK(M)\*256+PEEK(M+1)

470 IF BM THEN FC=FC-20

480 IFZP=0THENGS=0:A1=0:A2=0:GOT O520

490 IFWT=0THEN520

500 M=L5+AW\*18:PZ=ZP-1:IFPZ>0 THENPZ=PZ-1

510 MM=M+PZ\*2:GS=PEEK(MM)\*256+PEEK(MM+1):A2=PEEK(M+14)\*256+PEEK(M+15):A1=PEEK(M+16)\*256+PEEK(M+17)

520 CT=PM:RT\$="US Priority Mail":IF CT=0 OR (CT>FC AND FC<>0)THEN CT=FC:RT\$="US Fourth Class Mai 1"

530 IF CT=0 OR (CT>GS AND GS<>0) THEN CT=GS:RT\$="UPS Ground Service"

540 IF CT=0 OR (CT>A2 AND A2<>0) THEN CT=A2:RT\$="UPS 2ND Day Air"

550 IF CT=0 OR (CT>A1 AND A1<>0) THEN CT=A1:RT\$="UPS Next Day Air"

550 IF CT=0 OR (CT>A1 AND A1<>0) THEN CT=A1:RT\$="UPS Next Day Air"

560 PRINT:PRINT"Lowest cost for shipping is by ";:ATTR7,0:PRINT T\$;:ATTR0,0:PRINT:PRINT:PRINT"Cost is -->";:ATTR7,0:PRINTUSING"\$\$#.##";CT\*.01;:ATTR0,0:PRINT:PRINT:PRINT" You must decide if speed and service will be adequate."

570 GOSUB620

580 GOSUB590:PRINT:PRINTTAB(15)"Hit any key for more. BRK to quit."::EXEC&HADFB:GOTO300

590 IF ZU=0 OR ZP=0 THEN PRINT:PRINT"Note that this Zip code does not exist for ";:IFZU=0THENPRINT"US mail"; ELSE IF ZP=0THENPRINT"UPS service";

600 IF ZU<>0 AND ZP<>0 THEN ELSE IF ZU+ZP=0 THEN PRINT" and UPS service." ELSE PRINT"."

610 RETURN

620 PRINT:PRINT:PRINTTAB(15)"U.S. Mail":TAB(15)CHR\$(124)TAB(12)"UPS Service"

630 PRINT"Priority mail Fourth Class Express Mail":CHR\$(124)"Ground Service 2ND Day Next Day"

640 PRINTUSING"\$\$\$\$\$\$\$\$\$##";PM\*.01,FC\*.01,EX,GS\*.01,A2\*.01,A1\*.01:LOCATE39,16:PRINTCHR\$(124);:LOCATE0,18:RETURN

650 IF ERLIN>=160 AND ERLIN<=200 THEN GOSUB720:CLS:PRINT"Sorry, but the data file ";F\$;"/BIN has not been created. If you would like to create it please indicate so." ELSE 740

660 PRINT:PRINT"Select: <C>reat e files; <E>xit program -->?":

670 EXEC&HADFB:AN\$=CHR\$(PEEK(&H87)):IFAN\$="E" THEN END ELSE IF AN\$<>"C" THEN670

680 ' MAKE SURE THE "OPEN" STATEMENTS ABOVE HAVE LINE #S IN DECODES AND THAT

690 ' THE FIRST "OPEN" LINE # IS CORRECT IN LINE 720

700 ON ERR GOTO760:' Note, error traps don't work with RUN

710 POKE&HFFD8,0:OPEN"I",#1,P\$:CLOSE:RUN"+P\$

720 FOR I=1TO(ERLIN-160)\*.1+1:READ F\$,P\$:NEXT:RETURN

730 DATA US ZONE,ZONE,UPS ZONE,Z ONE,US RATEP,US RATE,US RATEF,US RATE,UPS RATE,UPS RATE

740 PRINT"There is an error"ERNO "in line"ERLIN

750 RGB:POKE&HFFD8,0:CLS1:END

760 RGB:CLS1:PRINT"Sorry, program ";P\$;" does not exist. Check disk directory.":END

770 'BASIC has very limited variable name capability, but generally names match

780 'the initials they stand for. ex. ZU-Zip US ZP-Zip UPS PM-Priority Mail.

Program continues on 36

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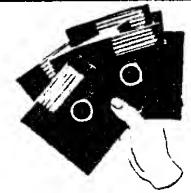


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# String Function\$ in BASIC 09



Bob van der Poel

Most computer languages support two different classes of variables--string and numeric. String variables store character information (eg. "This is a test"); numeric variables store numbers in various formats (real, integer, etc.) In this article we will explore Basic09's repertoire of string related functions. In many ways these functions work the same as their RS-BASIC counterparts ("RS-BASIC" is my shorthand for the "Disk Extended Color BASIC" which comes with your CoCo). If you are translating a program from one Basic to another you may find that some functions are missing or have a subtle change in them. In most cases it is a simple matter to work around these differences.

A number of functions -- ASC(), CHR\$(), LEFT\$, LEN() and RIGHT\$()--work identically in RS-BASIC and Basic09. We'll assume that you know how to use these. INKEY() is really not a Basic09 function, rather it is a machine language procedure which can be called by Basic09 programs. It's inclusion in the Basic09 manual shows how easy it is to make extensions to the language.

## Added Functions In Basic09

Basic09 adds two functions: DATE\$() and TRIM\$(). We'll let you look up the uses for these. However, it would have been nice if a function to strip leading spaces from strings had been included in the language. Since it wasn't, here is a short procedure you can use in its place.

```
PROCEDURE TrimLead
 0000
 0001      (* This procedure will remove
  any leading blanks
 0031      (* from a string. The string
  can be any size.
 005E
 005F      PARAM A$:STRING[32000]
 006B      DIM P:INTEGER
 0072
 0073      P=1
 007A      WHILE MID$(A$,P,1)=" " DO
 008D          P=P+1
 0098      ENDWHILE
 009C      A$=MID$(A$,P,2000)
 00AB      END
```

Some functions are just a little bit

different in Basic09. A real aggravation when doing translations, or if you are used to the other version.

In RS-BASIC the MID\$() function does not need the third parameter--if not given it defaults to the end of the string. However, Basic09 does require all three parameters. This can be a real pain, especially when you don't know the length of the string. The "proper" way to handle this in Basic09 would be:

```
A$=MID$(Temp$,20,LEN(Temp$))
```

However, we have found that:

```
A$=MID$(Temp$,20,1000)
```

accomplishes the same thing a quite a bit faster. Just use a value greater than the maximum size of the string.

STR\$() is almost the same in the two Basics... but not exactly. In RS-BASIC STR\$() will include a leading space for a positive number (where the plus sign would be). Actually, I recall writing reams of extra code to strip off that leading space. In Basic09 negative numbers are handled the same as in RS-BASIC, but the leading space is not added for positive ones. Also, you must remember that if the number being converted to a string is of type REAL a "." will be added to the rightmost position.

VAL(), again, is almost the same. However, in RS-BASIC taking the VAL() of a string which is not a number (eg. VAL("abc")) will not cause an error, instead a 0 is returned. In Basic09 this statement will cause an error #67 (illegal argument). This is unfortunate since we seldom input a numeric value directly, rather we input a string and convert it to a number--it is easier to maintain control of the screen layout using this method. Having a null input return a value of 0 is often useful. Here is a short replacement VAL() routine which emulates the RS-BASIC version:

```
PROCEDURE value
 0000      PARAM A$:STRING[2000]
```

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```

000C      PARAM value:REAL
0013      value=0
001B      ON ERROR GOTO 10
0021      value=VAL(A$)
002A 10    END

```

This leaves us with one function left to discuss: Basic09's SUBSTR() vrs. the RS-BASIC INSTR(). I find it hard to understand why the designers of Basic09 had to change not only the name of this command, but also the way it works. But we're stuck with it so, grin and bear . . .

In RS-BASIC INSTR([pos],str1,str2) finds the position of "str2" in "str1" starting at position "pos" in "str1." Basic09's SUBSTR(str1,str2) finds the position of "str1" in "str2"--the exact opposite order of arguments. And notice that the "pos" argument is not available in SUBSTR(). The reversal of arguments is a simple thing to get used to, but the inability to specify a start position for the search is a real pain. It makes the following little RS-BASIC program which extracts words from a string a complex conversion.

```

10 INPUT "Enter a line: ";L$
20 T=1
30 E=INSTR(T,L$," ")
40 IF E=0 THEN E=LEN(L$)+1
50 PRINT MID$(L$,T,E-T)
60 T=E+1
70 IF T<LEN(L$) THEN GOTO 30

```

However, all things are possible. Using the MID\$() function as a replacement for the "pos" argument we get:

```

PROCEDURE Breakup
0000
0001      DIM Line:STRING[1000]
000D      DIM
Length,BeginWord,EndWord:INTEGER
001C
001D      INPUT "Enter a line of text:
",Line
003B
003C      Length=LEN(Line)
0045      BeginWord=1
004C
004D      REPEAT
004F      EndWord=SUBSTR(
",MID$(Line,BeginWord,Length))
0062      IF EndWord=0 THEN
006E          EndWord=Length
0076      ENDIF
0078      PRINT
MID$(Line,BeginWord,EndWord)
0084      BeginWord=BeginWord+EndWord
0090      UNTIL BeginWord>=Length

```

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### Random Access Commands

I have deliberately not discussed the RS-BASIC random access file commands like FIELD, MKN\$(), LSET(), etc. Programs of this kind are quite complex to rewrite and, usually, it's just a lot easier to start over from scratch. The way RS-BASIC and Basic09 handle random access files is completely different.

One other useful Basic09 function which should be included in any discussion on string variables is SIZE(). This function returns the number of bytes allocated for storage for a variable. It can be quite useful as a check to see if a certain input will fit into a string. Remember, Basic09 will accept inputs longer than will fit in a string. The excess will just be sent to the bit bucket.

### PROCEDURE test

```
0000      DIM A$:STRING[8]
000C      A$="this is a test"
0021      PRINT A$
```

This procedure will print out the words "this is". No error is generated. Have a look at the code for STRSTR to see another use of SIZE().

A useful RS-BASIC function is HEX\$(). Since Basic09 doesn't have an equivalent function, we'll show you a replacement. Not only does this work for converting integers to hexadecimal strings, it works for any number base--just set the 'radix' parameter to the base you wish to convert to (eg. using a 'radix' of 16 will convert to hexadecimal). When calling ItoS please be sure that both the 'value' and 'radix' parameters are INTEGER vvalues--using REALS will generate strange results.

### PROCEDURE ItoS

```
0000
0001      (* A Basic09 integer to string
conversion
routine.
0033      (* Useful to emulate the
RS-BASIC HEX$()
function,
0065      (* but has the added ability to
convert to ANY
base.
0099
009A      PARAM value:INTEGER
00A1      PARAM A$:STRING[1000]
00AD      PARAM Radix:INTEGER
00B4
00B5      DIM Sign:STRING[1]
00C1
00C2      A$=""
00C9      IF value<0 THEN
00D5          value=-(value)
```

```
00DE      Sign="-"
00E6      ELSE
00EA      Sign=""
00F1      ENDIF
00F3
00F4      WHILE value>0 DO
0100          n=MOD(value, Radix)
010D          IF n>9 THEN n=n+55
0125          ELSE
0129              n=n+48
0135          ENDIF
0137          A$=CHR$(n)+A$
0145          value=value/Radix
0151      ENDWHILE
0155
0156      A$=Sign+A$
0162
0163      END
```

Our final function is RS-BASIC's STRING\$(). This is really useful for generating formatted output. Again, it is easy to emulate with a Basic09 procedure:

```
PROCEDURE StrStr
0000      (* This procedure does it best
to emulate the
RS-BASIC
0036      (* STRING$() function.
004C
004D      PARAM Str:STRING[1000]
0059      PARAM Count,Char:INTEGER
0064      DIM t:INTEGER
006B
006C      IF Count>SIZE(Str) THEN
007B          Count=SIZE(Str)
0085      ENDIF
0087
0088      Str=""
008F      FOR t=ADDR(Str) TO
ADDR(Str)+Count-1
00AC          POKE t,Char
00B5      NEXT t
00C0
00C1      IF Count<SIZE(Str) THEN
00D0          POKE ADDR(Str)+Count,$FF
00DF      ENDIF
00E1
```

If you examine the code for StrStr you will see that we are using POKEs to modify a string. Unless you take precautions (which StrStr does) to ensure that you remain within the memory allocated for the string you can create havoc with your system--be careful when using POKE. Also, notice how we set the end of the string before leaving the routine.

Next issue we'll have a look at how strings are stored, and how memory is allocated for them, in both RS-BASIC and Basic09. Until then, let us know what you are doing with your OS-9 system and topics

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# CoCo Clipboard Magazine

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790 800 PRINT "You must insert your own local zip codes and BMC data at the beginning of  
810 PRINT "the program before first use and whenever you move to a new zip location.

820 PRINT:PRINT "Comment lines in the program indicate where the data should be added.

830 PRINT "This data should be on the US Zone Chart. If not see postmaster.

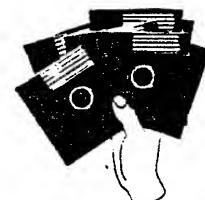
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# Compte Rendu

avec Claude Giguere

Tous les logiciels que nous tudierons proviennent de Alpha Software Technologies qui se spacialise tout particulièrement en OS9. Le système d'exploitation OS9 est puissant mais à quoi bon cela servira-t-il si nous ne parvenons pas à lui assigner des fonctions en lieu et place de l'utilisateur. Ce que la majorit d'entre nous espsons recevoir est un ensemble d'utilitaires permettant d'automatiser diverses fonctions routinières. L'accès à des fenêtres, voire de terminaux, rend possible ce rêve tant dsir depuis si longtemps. Là rside la puissance et l'essence même du OS9. Voici donc quelques utilitaires comblant cette lacune.

## Presto-Partner:

Ce nouvel utilitaire se place automatiquement en mmoire vive, dès son initialisation, et comprend une horloge, un calendrier, un annuaire tlphonique, un bloc-note et une calculatrice de type poche. Il opère dans sa propre fenêtre et n'interfère en aucun cas avec quelques applications que vous pourriez avoir dans d'autres fenêtres. Il est très facile d'accès et d'oprarion; l'utilisateur n'a qu'à enfoncez la touche 'ALT' avec une autre touche pour recourir à l'une des de ces fonctions. Ce logiciel requiert un Coco 3 de 512K; une imprimante est facultative. Un dbutant ou un utilisateur chevronn devrait hautement apprcier cet utilitaire par suite de son extrême facilit d'utilisation et par son utilit certaine. Il a à sa disposition plusieurs aide-mmoire tout en vacant à ses applications courantes (traitement de texte, chiffrier, communication, programmation). L'ordinateur se fera un devoir de lui rappeler ses rendez-vous, les notes prcdentes qu'il a crites, un numro de tlphone à composer sans interfirer avec ce qu'il a djà entrepris dans une autre fenêtre. Cet utilitaire ressemble beaucoup au 'SideKick' du MS-DOS; la raison d'être d'un tel logiciel est de permettre l'informatisation des notes personnelles concernant l'usager. L'utilisateur peut aussi imprimer les divers blocs-notes qu'il a crits sur son imprimante; nous aurions vivement souhait que cette caractristique ait t conserve - galement pour le calendrier et le bottin tlphonique. Une prochaine mise à jour devrait, à notre avis, en tenir compte. L'utilitaire peut être configur pour un envi-

ronnement Multi-Vue. Nous n'hsitons pas à recommander ce logiciel à toute personne dsireuse de travailler srieusement en OS9 et d'y trouver un plaisir certain.

## Disk Manager Tree:

Cet autre utilitaire simplifie grandement le casse-tête des dbutants et soulage aussi les utilisateurs avertis de plusieurs besognes fastidieuses et rptitives. Ce logiciel fonctionne de façon autonome dans sa propre fenêtre et n'interfère aucunement avec quelque application que ce soit que l'usager pourrait avoir dans une autre fenêtre. Il permet entre autres de crer, supprimer et de modifier des rertoires et des fichiers. L'cran se prsente sous forme de trois fenêtres graphiques et très colors dont l'une d'entre elles prend la forme arborescente pour reprsenter les divers rertoires de la disquette. La caractristique majeure de tous les utilitaires provenant d'Alpha Software Technologies rside dans la simplicit et la facilit d'implantation de l'acqureur. Tout utilisateur y trouvera son intérêt et le programme lui pargnera plusieurs frappes pour voir ou visionner, transférer, effacer ses rertoires ou fichiers car le logiciel recourt qu'à une seule touche du clavier pour accder à ces diverses fonctions; il n'a pas non plus à les mmoriser car chacune d'elles apparaît au bas de l'cran. Nous devons sincèrement avouer que la firme Alpha a mis sur le march un excellent utilitaire qui facilite grandement l'exercice de plusieurs commandes de base du OS9 tel que: copy, list, del, makdir, deldir, dir, chd, chx. Il devient de plus plus ais de se servir d'un système d'exploitation en fonctions multiples, ne trouvez-vous pas!

## Multi-Menu:

Cet utilitaire renferme les mmes caractristiques que les prcdents à savoir oprer en arrière-plan et être transparent au système. Il consiste essentiellement

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ment à confectionner des menus dans un environnement Multi-Vue. Les menus principaux sont de type drouant à la manière d'un Makintosh; un dbutant pourrait ainsi y loger les principales commandes de base et y accder par la suite par une simple pression du bouton de la souris. Il n'aurait qu'à crire ses propres commandes qu'une seule fois et ne plus s'en soucier par la suite. L'utilitaire devient ainsi très convivial; le logiciel requiert un 512K et le Multi-Vue; le manuel comprend une douzaine de pages dans lequel le lecteur y trouvera tout ce qu'il a besoin de savoir pour initialiser le système mais nous aurions apri que les explications soient suivies d'exemples pour plus de clart. Là est l'une des grandes lacunes de certains manuels provenant d'outre frontières. La rdaction devrait être confie quelques fois à des pdagoques afin d'expliquer en termes sans quivoque le sens de certains paragraphes. Dans ce cas-ci, heureusement, le manuel est pratiquement superflu comme pour les autres d'ailleurs à l'exception du Level II Tools et du Zapper. La seule exception pour ce manuel est le passage où l'auteur dcrit l'usage des paramètres (symbole pourcent) pour indiquer une information, un nom de fichier ou une procédure. Le seul effort intellec-

tuel exig de la part de l'usager est de prvoir les commandes qu'il utilisera - ventuellement, c'est donc tout dire sur la simplicit de cet utilitaire.

## Level II Tools:

Cette 'boîte à outils' renferme plusieurs utilitaires pratiques pour tout usager en OS9. Tout propriétaire du système d'exploitation OS9 devrait possder cette trousse. Cet ensemble d'utilitaires amliore et accroît la panoplie des commandes de la disquette maîtresse du Niveau II. On y retrouve des caractères passe-partout qui permettent de multiples recherches sous diverses formes. La disquette originale renferme plus de vingt-cinq commandes utilitaires qui ont pour objectif principal d'amliorer les commandes de base qu'un usager utilise quotidiennement, qu'il s'agisse de transfert de fichiers, de procder au visionnement de rpertoires, de connaître le nombre de fichiers d'un disque, d'ouvrir ou fermer des fenêtres ou encore de modifier la couleur de l'cran. Une autre catgorie d'utilitaires ont pour but d'apporter une

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certaine information dans la manipulation des données; ces utilitaires répondent à certaines interrogations qu'un utilisateur pourrait avoir à l'occasion. Avons-nous besoin de convertir un nombre en hexadécimal ou en decimal, il suffira de l'indiquer à l'ordinateur pour en connaître la nature. Un autre utilitaire servira à afficher le nom et le numéro du dispositif; cette fonction peut devenir précieuse lorsque nous utilisons plusieurs fenêtres simultanément afin d'en reprendre une plus particulièrement. Parmi tous ces utilitaires, il y en a une qui peut servir à titre d'agenda sous forme de bloc-notes ou de calendrier afin d'enregistrer vos rendez-vous ou vos notes personnelles. Enfin, un dernier utilitaire remplacera avantageusement la fonction list en vous permettant de visionner un fichier soit depuis le début ou depuis la fin sans avoir à recourir aux touches d'arrêt de défilement habituel.

## Zapper:

Cet utilitaire permet de visionner, modifier et de sauvegarder des secteurs d'un fichier. Il s'agit en fait d'un éditeur de disque; l'usager devrait, à notre avis, être très prudent quant à l'usage d'un tel logiciel car il pourrait très aisement endommager irrémédiablement la disquette qu'il se propose de visionner/modifier. En conséquence, toujours utiliser une copie de sauvegarde lorsque nous utilisons un tel utilitaire. Le disque original comprend deux versions: une pour le Niveau II et une autre pour le Niveau I. Celle du Niveau II permet de visionner un secteur complet en 80 colonnes alors que celle du Niveau I affichera que le quart d'un secteur en 32 colonnes. Lorsque l'ordinateur aura chargé l'utilitaire en mémoire, l'écran affichera le secteur courant ainsi que le numéro de piste et le mode numérique; ceci permet de se situer logiquement sur la disquette de travail. La numérotation peut être en hexadécimal, decimal ou octal; les commandes sont à leur plus simple expression et s'exercent par la pression d'une seule touche. Tous apprécieront l'utilité d'un tel logiciel et voudront certainement en faire l'acquisition afin de le vouer à des buts bien précis comme franciser certains programmes.

## Conclusion:

Alpha Software Technologies doit être félicité pour l'ensemble des logiciels utilitaires qu'elle met sur le marché à la disposition des utilisateurs qu'ils

soient nophytes ou chevronnés; tous ont à tirer profit de chacun d'eux individuellement. Les manuels sont bien conçus et précis en termes clairs et précis. De plus, ce qui n'est point négligeable est leur prix d'achat; ils varient entre \$20.00 et \$30.00. Il serait vraiment regrettable que certains adeptes du Coco se livrent à la piraterie pour acquérir ces utilitaires à vil prix. Nous déplorons tous la disparition du Coco au Canada, il ne faudrait pas que l'action de quelques-uns enveniment davantage la situation; cette firme commande notre respect car elle nous offre des produits de qualité professionnelle et elle mérite notre appui si nous désirons vraiment accroître la puissance de notre système d'exploitation.

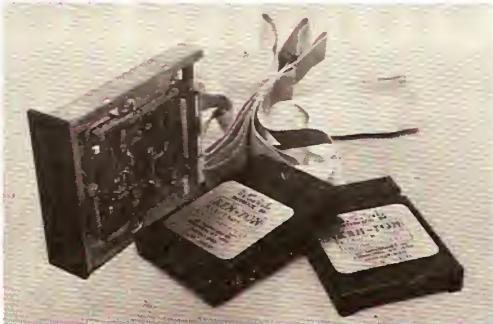


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